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Committee on the Peaceful Uses of Outer Space

412th Meeting
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Vienna

Chairman: Mr. Hohenfellner ..... (Austria)

The meeting was called to order at 10.10 a.m.

Report of the Scientific and Technical Subcommittee (A/AC.105/605) (*continued*)

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (*continued*)

Mr. Zaman (Pakistan): My delegation would like to express its satisfaction at the progress made by the Scientific and Technical Subcommittee during its thirty-second session. The United Nations Programme on Space Applications, carried out by the Office for Outer Space Affairs, has been making efforts not only to discharge its mandate but also to enhance its scope of activities in the light of the UNISPACE 82 recommendations, within the meagre financial resources available to it. My delegation would like to express its appreciation to the member States and specialized agencies that are providing in-kind or in-cash support for continuing the Programme's activities. My delegation recommends that our Committee should continue to work towards getting the allocation adequately enhanced to meet the actual requirements of the Programme.

Mr. Muhammed Nasim Shah of Pakistan was not able to participate in the thirty-second session of the Subcommittee as the Chairman of the Working Group of the Whole, due to his important assignments at SUPARCO. However, he will be available for the next session of the Subcommittee, scheduled to be held in 1996.

It is satisfying to note that the General Assembly, in its resolution 49/34, agreed that the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space could be convened in the near future. My delegation strongly supports the idea of holding UNISPACE III as soon as possible. In view of the availability of the comprehensive background documents prepared by the Office for Outer Space Affairs, the working papers presented by member States, the report of the Working Group of the Whole of the Scientific and Technical Subcommittee, and the latest question-and-answer statement of the representative of India, my delegation feels that it should not be difficult now to reach a conclusion on this item.

My delegation undertakes to be fully cooperative, accommodating and flexible to facilitate a speedy consensus on this matter.

The Office for Outer Space Affairs, through the Programme on Space Applications, has been very active in the specific applications of space technology through its initiative aimed at establishing regional centres for space science and technology education in developing countries. While my delegation is fully appreciative of these efforts, it holds the view that the concerns expressed yesterday by the delegation of China merit careful consideration.

During the past few sessions of the Scientific and Technical Subcommittee and of the Committee itself, concern has been expressed at the pollution of the space

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environment by space debris. Consequently, the General Assembly endorsed, in its resolution 48/39, the recommendation of the Committee on the Peaceful Uses of Outer Space (COPUOS) to add an item on space debris to the agenda of the Subcommittee for consideration beginning at its 1993 session. My delegation would like to express its appreciation for the scientific and technical presentations made at the thirty-second session of the Subcommittee on the various aspects of space debris. It notes with satisfaction that the Subcommittee has adopted a specific multi-year work plan to study in detail the various elements involved. As to the question of placing this item on the agenda of the Legal Subcommittee, we not only share but fully endorse the very eloquently expressed views of the delegation of Brazil.

My delegation would like to place on record its appreciation for the two esteemed world bodies, Committee on Space Research (COSPAR) and the International Astronautical Federation (IAF), for organizing, on an annual basis, symposiums on various themes at the annual sessions of the Scientific and Technical Subcommittee. During these symposiums, many illustrative technical presentations have been made on state-of-the-art developments in and applications of space science and technology. We hope that, in keeping with their past practice, COSPAR and IAF will continue to arrange such presentations in future, in view of their immense utility for the world's scientific community.

Mr. Senkevitch (Russian Federation) (*interpretation from Russian*): The delegation of the Russian Federation would like to share some views on the problem of space debris in the context of a more careful study of the topicality and importance of this issue, possible ways and means and stages of solving the problem, efforts to reach agreement between member States of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), and prospects for related activities in the Scientific and Technical Subcommittee and in the Legal Subcommittee.

Allow me first to express an opinion on the scientific and technical side of this work. We are all witness to the intensification of space activity, and there is a corresponding increase in the level of technically generated pollution in near-Earth and medium-altitude space, in the geostationary orbit, on the Moon and on other celestial bodies. Of course, in different parts of outer space and on different celestial bodies, the levels of pollution are different. Hence, as was rightly pointed out by the delegation of Germany in its statement, we need different approaches to the study of this problem and different means of overcoming it in different parts of space.

In near-Earth space, at altitudes of up to 800 kilometres, the probability of collision between debris and large components of spacecraft is relatively high, and for particles measuring more than 1 millimetre it is 0.1 to 0.3 over a period of 10 years. If the average impact velocity of the colliding particle and the spacecraft is 12 kilometres per second, then the particle may penetrate the casing of the satellite or manned space station to a depth of 5 millimetres. For this reason, manned stations, such as the Mir space station, cannot be deployed without costly protective shields. In this regard, both in Russia and in other countries, scientific and experimental work is being carried out with a view to, for example, manoeuvring orbital space facilities to ensure that they avoid collision with artificial objects.

Another very critical issue is the pollution of the geostationary orbit. In other areas of near-Earth space and on celestial bodies, the problem of pollution is not yet quite so critical. With regard to the geostationary orbit, all States are aware of this phenomenon and its unique features relating to space communications, television broadcasting, monitoring, meteorology, missile-attack warning systems and other endeavours. The geostationary orbit is a limited resource that must be exploited economically for the benefit of all mankind. In the Russian Federation's view, with respect to the problem of space debris, the following tasks are important: the development and implementation of measures designed to reduce the pollution of near-Earth space; the development and experimental verification of a model for space pollution, including observable and non-observable space objects; the organization of work to observe particles of space debris and timely forecasting and notification of possible collisions between space objects and space debris; the development of issues related to the design of spacecraft and systems under conditions of technically generated and natural space pollution; and the development of ways and means of shielding spacecraft against the effects of high-velocity particles of space debris.

In Russia, the space control service has already been in operation for a long time and has been steadily improved. This service draws on the latest land and space facilities. There are plans for satellites that, through minimal adjustments to existing facilities, will make it possible to approach large fragments of space debris and spacecraft that have ceased operations. In the

geostationary orbit this will make it possible, for example, to give pieces of debris the push needed to remove them into less saturated areas of space, at 3,000 to 5,000 kilometres above their home orbit, or to slow them down so that they will burn up as they re-enter the dense layers of the Earth's atmosphere. In general, the development of work on these problems is being carried out in the Russian Space Agency's central scientific research institute for machine construction and the space centre named after Khrunicheva in Moscow. In the near future, as we have already stated, in the context of a federal programme to reduce space pollution — a programme known as ECOS-RF, RF standing for Russian Federation — we plan to hold an international seminar on the problem of space pollution in Moscow, to be followed by an international conference in Obninsk on space exploration, power engineering and "eco-civilization". Both of these events will continue the development of scientific ideas and practical recommendations in this sphere.

Our delegation endorses the Scientific and Technical Subcommittee's policy of attaching high priority to careful development at an expert level of the scientific and technical aspects of this problem — ways of modifying the extent of the orbit's saturation with debris, mathematical modelling of the debris environment and determining its parameters — and the problems of enhancing spacecraft to ensure that they are properly shielded against collisions with debris, for example. We support the work plan adopted by the Scientific and Technical Subcommittee on the problem of space debris. We would like once again to recall the work being done in the context of the Interagency Orbital Debris Coordination Committee (IADC), established by the space agencies of Russia, the United States, Europe and Japan. Our delegation has already made a proposal on the establishment of contacts between our Committee and the Inter-Agency Coordination Committee. We think that such a practice would be useful and should very quickly lead our work to concrete results.

I would like to say a few words about the legal aspects of the problem of space debris. As the Committee knows, there was a divergence of views in the Legal Subcommittee. Some States say it is necessary, first of all, to have empirical data and operational experience on space debris, whereas others believe that this is not necessary and are ready to consider the problems immediately.

We believe that any course of action divorced from its scientific and technical starting-point will lack a solid foundation and could produce dubious and ill-conceived ideas. In our view, the Committee could recommend that the Interagency Orbital Debris Coordination Committee consider establishing a small *ad hoc* legal group with a limited membership, which could develop initial specific proposals and submit them to this Committee for consideration. We need to devise a better organized liaison between the Committee and the IADC.

Mr. Moutsoulas (Greece): My delegation is pleased, Sir, to see you chairing this Committee once again. Your experience and skills will guarantee the success of the Committee's work.

The report of the Scientific and Technical Subcommittee reflects the accomplishments of a very successful session, a session that was conducted by Professor John Carver, who has managed over the past 25 years to bring to the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS) the spirit of scientific competence and responsibility that governs his own professional life.

During the 37 years that have passed since the establishment of this Committee in 1958, remarkable developments have occurred. Today, space matters are not the concern of super-Powers alone; they concern every country, regardless of its population and its wealth. Applications of space technology in environmental studies and in communications are of interest to everyone. It was therefore inevitable that the small *ad hoc* Committee of 1958 should have been transformed into a large Committee that can accommodate the expectations, as well as the anxieties, of all nations.

The argument has been made that a Committee of 61 members cannot work efficiently. The comprehensive report of the Scientific and Technical Subcommittee provides the best reply to that argument; it is well known that the efficiency of a Committee depends not on the number of its members, but, rather, on the Chairman's skill and the spirit of cooperation among member States. My delegation is confident that the new members of COPUOS will adapt to the Committee's work, as they did during the session of the Scientific and Technical Subcommittee, and, in harmony with our skilful and experienced Chairman, will contribute to the success of the Committee's work.

With reference to space debris, my delegation endorses the statement made by the representative of

Germany. A good understanding of the scientific and technical aspects of the problem is necessary before we proceed to setting up any rules.

On the matter of the dissemination of meteorological satellite data, my delegation took note of the comment made by the Turkish delegation regarding the acquisition of data at a reasonable cost. I would like to inform the Committee that Greece has in operation a high resolution picture transmission system, and I am pleased to inform all our neighbouring countries that Greece is prepared to offer advanced very-high-resolution radiometer data, as well as the processed information, at no cost, in the spirit of good-neighbourly cooperation. This offer can be formally included in the provisions of the relevant bilateral agreements for scientific and technical cooperation already existing between our respective countries.

As members know, collaboration between neighbours is always desirable in any scientific field. However, cooperation in atmospheric studies and monitoring is absolutely necessary. One must not forget that the elements that unite nations are more numerous by far than those that divide them. Everyone is aware of the poverty that dominates the majority of the Earth's population and of the environmental degradation that plagues our planet today. The applications of space technology in the areas of agriculture, natural-resource exploration and pollution-monitoring can provide solutions to these problems. Moreover, we note that space communications have diminished distances between nations and have contributed to world-wide understanding of our common problems.

I am pleased to state that Greece is contributing to the joint efforts on space applications. In the field of remote-sensing education, Greek universities are cooperating with other European universities within the framework of European Union programmes. Moreover, special courses have been developed for the optimal exploitation of the data of the high resolution picture transmission (HRPT) system of the National Meteorological Service. As my delegation has reiterated on several occasions, Greece continues to hold the strong idealistic belief that educational programmes should not be restricted by national boundaries. In this context, I would welcome any prospective student who might wish to participate in our space-education programmes.

I would also like to announce that, in the field of satellite communications, the preparatory phase of the HELLASAT project has been completed.

I would like in conclusion to stress that scientific competence and a good understanding of today's problems, at the global level, constitute the most appropriate way to smooth differences and prepare the ground for a peaceful world.

Mr. Jahedi (Islamic Republic of Iran): My delegation recognizes the objectives of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, which would clearly reaffirm the promotion of the effective use of space technology to assist in the solution of problems of regional and global significance, and to strengthen the capacity of Member States, in particular developing countries, to apply space research to problems of economic and social development.

Further, with regard to the additional scientific and technical component of a third UNISPACE and the seminars and workshops proposed to be held as part of the Conference, organized by interested specialized agencies of the United Nations and other international organizations on topics relevant to their expertise and mandates, my delegation expresses its willingness to expand existing cooperation with interested bodies. This would be a significant contribution to the training, research and education that are the objectives of UNISPACE III.

In view of the priority that the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space attached to the promotion of greater exchange of actual experience in space applications — it recommended appropriate assistance and called in particular upon international financing agencies to support demonstration projects to provide opportunities for hands-on experience in space technology and applications for the developing countries through direct involvement in such applications processes — my delegation remains hopeful that this particular area will be granted the priority that it deserves, although some programme activities have encountered certain financial dilemmas in the implementation process, and some have been cancelled.

I should like, in conclusion, to state my delegation's belief that there is a salient need to consider the convening of UNISPACE III in a developing country as soon as possible. In fact, my delegation believes that a UNISPACE III would not only contribute to the smooth implementation of proposed pilot projects of UNISPACE

82 but also determine whether or not the objectives of UNISPACE 82 have been fully met. A UNISPACE III would evaluate the achievements of UNISPACE 82 and allow for comment on whether such conferences should be held at all in the future.

Finally, my delegation expresses its appreciation to Professor John Carver of Australia for his 25 years' outstanding and devoted effort in chairing the Scientific and Technical Subcommittee. We share the view of other delegations that developing countries should play a potent role by occupying the chairmanship of that Subcommittee.

Mr. Zvedre (Russian Federation) (*interpretation from Russian*): In continuing the Committee's consideration of a Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), I should like to outline my country's provisional, initial views.

One cannot fail to pay due tribute to the authors of the working document on the possibility of holding a UNISPACE III. The problems that are listed demonstrate very clearly the vast range of problems confronting mankind as it tries to conquer outer space in the interests of all countries. This prompts the space States to assess their activities objectively and fully through the prism of how they conform to the new criteria emerging from the rapidly developing technological revolution and the principles of equitable and mutually advantageous cooperation.

It would be foolish to dispute that mankind's crossing of new thresholds in outer space science and technology and related fields, including electronics, computer technology and material and other sciences, opens up new horizons for their practical implementation in the interests of all countries and requires a deep re-examination by all members of the world community.

We have no doubt, and have no hesitation in saying, that it is desirable that all States, including those that are not involved in outer space, participate in the discussion of issues concerning the use of space for peaceful purposes. At the same time, it is clear that neither the motivation nor the themes provisionally chosen for such a wide-ranging forum as UNISPACE III should give rise to any impression that implementation of its recommendations would result in regulation of international cooperation of outer space that would in any way replace or qualitatively change the bilateral and multilateral mechanisms for this cooperation.

In principle, we are not against the idea of convening such a Conference in the near future. However, we believe that at this stage it would be counterproductive to artificially force the adoption of actual recommendations with regard to its agenda, its venue and the circumstances of its convening — in other words, all the preparatory work involved in the holding of a conference.

We are rather more impressed by the arguments adduced by the proponents of very well structured, gradual preparation for this wide-ranging forum — those who say that we should make haste slowly. Indeed, it is very important to see that the thrust and the themes are properly chosen. As those who have laid out guidelines for the agenda have indicated, matters connected with the transition from the military to the civilian use of outer space could be one of the themes. This would be all the more relevant and topical if we were able to organize, parallel with the Conference, a demonstration of conversion applications of outer space technologies capable of being implemented.

I do not want to get embroiled in ideological approaches. I believe that it is necessary to focus on the practical issues of the development of outer space technology. We should not repeat what was said at the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Spaceor allow for any even indirect politicization of the issues involved.

Furthermore, with regard to the proposed UNISPACE III agenda, we cannot but note the many cross-references and even overlaps in respect of issues that are already handled by the Committee on the Peaceful Uses of Outer Space as a whole and its two Subcommittees, as well as provision for discussion and adoption of actual cooperation projects with an outer space component, involving the United Nations Environment Programme, the United Nations Industrial Development Organization and specialized agencies such as the United Nations Educational, Scientific and Cultural Organization, the International Civil Aviation Organization, the International Telecommunication Union, the Food and Agriculture Organization of the United Nations and other bodies. There is overlap at various points. In any case, we should certainly avoid a situation in which the effectiveness of the work done by these organizations could in any way, directly or indirectly, be called into question.

Questions having to do with scheduling must be approached realistically. A painstaking conceptual review of major recent advances in the exploitation of outer space and an attempt to balance the interests of outer-space States and developing countries cannot be addressed with undue haste and without proper consideration of experience already acquired.

We believe that a realistic time for convening another outer space conference might be early in the coming millennium.

The Chairman: There are no more speakers on agenda item 7, so we shall move on to agenda item 6.

Report of the Legal Subcommittee on the work of its thirty-fourth session (A/AC.105/607)

Mr. Marchán (Ecuador) (*interpretation from Spanish*): The delegation of Ecuador has studied carefully and with interest the items the General Assembly assigned to the Legal Subcommittee by the terms of paragraph 4 of resolution 49/34.

I turn first to the question of early review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. My delegation joined the consensus in the Legal Subcommittee that with respect to applicability and validity we should not undertake revision of the Principles or begin a debate on that subject. This in no way diminishes the significance of the topic. To the contrary, my delegation feels that, precisely because of its undeniable importance, possible review of the subject would be fully justified at a time judged to be proper for modifying and enhancing the Principles in the light of new technological developments. In the meantime, compliance with the Principles by States that make use of nuclear power in outer space is not merely appropriate, but necessary. The use of nuclear power can benefit the international community on a basis of confidence and reliability only with the adoption of measures to avoid all risks and negative impact that the improper use of these resources could entail for the Earth environment or for near-Earth space.

I turn now to item 4 of the Subcommittee agenda, which concerns matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit. As members know, this item has historically been of great interest to my country owing to its location at the equator. I should begin by noting that my delegation does not share the view that consideration of this item should be divided, which we believe would prejudge the legal status of the geostationary orbit in international space law. Indeed, the question of the geostationary orbit has been historically linked to that of the definition and delimitation of outer space, or vice-versa, precisely because it has not been determined whether it belongs to the legal regime that applies to outer space by virtue of the 1967 Treaty, or whether — given its special characteristics, its geophysical link to gravitational forces generated at the equator and other specific technical attributes that mark it as a limited natural resource — it merits a *sui generis* regime, as my delegation and others believe it does.

Hence, we believe that using a procedural gimmick suddenly to divide an item that has always been examined as one would amount to an a priori judgement of a basic question. The two matters are not considered together arbitrarily. While they are different, they are not mutually exclusive; they are parallel lines with a prudent distance between them: progress made along one line today may help advance the other tomorrow.

The delegation of Ecuador is not opposed in principle to possible review of the Committee's working methods if it results in better, more efficient use of our time. But we cannot support proposals that, on the pretext of speeding up our work or making it more flexible, have a substantive effect. My delegation joined other countries in the Legal Subcommittee in opposing the separation of two subjects of item 4 or — even worse — shelving or freezing it.

My delegation believes that the comparatively slow pace of our consideration of these subjects cannot be attributed to their being grouped under a single agenda item, but rather to the intrinsic complexity of the two matters. Still, we should acknowledge that some progress has been achieved, and that, in the light of the combined debate on the item, many countries have been changing their positions and drawing closer to a consensus.

For all those reasons, my delegation does not think it would be a good idea to split item 4 of the Subcommittee agenda. Precisely because of its complexity and the interrelation of its two subjects, it must be viewed as a single whole. I repeat my country's interest in continuing study of this subject in the same manner as it has always been carried out.

My delegation remains convinced that it is necessary to define the boundary between airspace and outer space.

Although this Committee decided in 1959 that the delimitation of outer space was not a subject that required priority attention, that judgement, which was perhaps valid when it was pronounced, cannot be considered to apply in perpetuity. My delegation therefore bases its view on practical considerations, and an increasingly widespread *opinio juris ge..eralis* that has been accepted into doctrine.

The current situation, in which outer space is not delimited, can favour only those actors who, by virtue of their technological resources, can make use of outer space without any type of boundary. But the fact that few States currently have access to outer space does not make it unnecessary to define and delimit the area within which activities fraught with legal, political and economic consequences for all members of the international community are carried out.

The situation prevailing in 1959, only two years after the first satellite was launched into outer space, is nothing like the current one. Outer space activities have increased considerably, becoming ever more frequent and complex. As a result, the subject of definition and delimitation is in turn becoming even more imperative. It is not a matter only of boundaries, but also of establishing clearly, as in the case of the law of the sea, what activities should be conducted under the regime of State sovereignty and what activities are *res communis omnium*, under an international regime.

The delegation of Ecuador believes that, within the general framework of international relations, the definition and delimitation of outer space will make it possible to plan a more harmonious and orderly development of State activities in outer space on the threshold of the next millennium. As we have said in the past, we think that there are no legal impediments to this; the obstacles are simply political, and as such they can be overcome through the will and decisiveness of States. The Legal Subcommittee's adoption of the questionnaire concerning aerospace objects is a step forward, and the responses to that questionnaire can help us in our future work on this subject.

My delegation would like to thank the Russian Federation for submitting the working paper containing the first questionnaire concerning aerospace objects. We also thank the Chairman of the Working Group, Mr. Eugenio Curia of Argentina, for having led the discussions making it possible for the questionnaire to be adopted in the Legal Subcommittee after lengthy deliberations.

I should like to conclude this part of my statement, on the definition and delimitation of outer space, by quoting Mr. Zhukov, the treaty expert, who, at the twenty-third colloquium on outer space law, held in Tokyo in September 1980, said:

> "I should like to express my deep conviction that a final delimitation of aerospace and outer space will promote greater international cooperation in the exploration and use of outer space".

Space pollution in the geostationary satellite orbit continues to increase because of the growing amount of space debris in that limited natural resource. This not only has a negative impact on the orbit's saturation rate, but also constitutes a risk for space travel, for the smooth conduct of telecommunications and for the very safety of States. It also affects future access to that resource.

That is why my delegation favours not only the study and scientific and technical analysis of the issue, but also its legal consideration by COPUOS. Hence, Ecuador joins those countries that propose more in-depth treatment of the item on space debris in the Legal Subcommittee, which is responsible for all legal and political aspects relating to the geostationary satellite orbit. This work could not be undertaken by the International Telecommunication Union (ITU) because its sphere of action is limited to specific technical aspects.

The transfer to a disposal orbit of geostationary satellites before the end of their service life is one of the proposals that the Legal Subcommittee could study in this area. In any event, whatever the most viable technical proposal might be, the important thing, in our view, is to emphasize that the responsibility of States cannot end when the service life of satellites comes to an end. Rather, as in the case of objects governed by article VIII of the 1967 outer space Treaty, a State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such an object as long as it is in outer space or on a celestial body.

As we have always stated in addressing the subject of the geostationary satellite orbit, my delegation believes it is necessary to establish a *sui generis* legal regime to regulate access to and the utilization of that orbit. This regime must take account of various factors, including legal aspects, the fact that the orbit is a limited natural resource, its special technical characteristics and attributes and its geophysical link to gravitational

phenomena that occur only in the plane of the Earth's equator.

Being essentially a limited natural resource, the geostationary satellite orbit requires a special international statute that would fully guarantee equitable access. To be equitable, this cannot be based just on technological advantages — a principle of first come, first served, for example — but should also take into account the relative disadvantages of the developing countries and, of course, the special geographical situation of equatorial countries with respect to the orbit.

The orbit regime should therefore, on an equitable basis, take into account the interests of all parties: developed countries, developing countries and equatorial countries.

My delegation will study with keen interest the revision of the working paper on orbit that the delegation of Colombia will submit to the Legal Subcommittee at its next session.

Finally, with reference to legal aspects relating to the application of the principle that the exploration and use of outer space must be carried out for the benefit and in the interests of all States, especially the developing countries, my delegation wishes to reiterate the importance of international cooperation for improving the endogenous knowledge and capacities of the developing countries and the need to foster their programmes and projects. In this context, we welcomed the various proposals put forward containing extremely useful elements for a possible declaration of principles relating to international cooperation.

Mr. Schrogl (Germany): At this year's session of the Legal Subcommittee the French and German delegations submitted a working paper on the agenda item on space benefits in order to express a new approach to mutually fruitful and beneficial cooperation. We consider our paper a contribution to achieving progress in the matter of space benefits and to preventing a deadlock in the debate.

The German-French working paper rests on two basic considerations: first, that States are free to determine all aspects of their cooperation — whether it be bilateral or multilateral, commercial or non-commercial — including, of course, development cooperation; and, secondly, that States will choose the most efficient and appropriate mode of cooperation in order to allocate resources efficiently.

By introducing these two considerations we have taken the path which has for many years been successfully followed in establishing space cooperation between our governmental agencies and private entities and other countries, including developing countries, for their mutual benefit. So the German-French Working Paper describes the framework of tested and successful space cooperation.

In the discussion on space benefits the German-French Working Paper received a very positive response and strong support from a wide range of delegations. We appreciate the constructive comments and suggestions made by many delegations. We will carefully consider them and feel encouraged to introduce a revision 1 of the German-French paper to the Legal Subcommittee at its thirty-fifth session, next year. We are optimistic that in the coming years a consensus on space benefits will be achieved in the Legal Subcommittee on the basis of our paper.

As to the topic of matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, the Legal Subcommittee adopted procedures to promote the debate at the next session. We hope that further progress can be achieved in these matters on the basis of the satisfactory work done by the International Telecommunication Union, which has ensured equitable access to and rational use of, the geostationary orbit so far.

Concerning the principles relevant to the use of nuclear power sources in outer space, we are pleased that consideration of this agenda item was suspended in the Legal Subcommittee at its session this year. As these principles were adopted by the General Assembly only three years ago, we believe that for the time being there is no necessity for an early review and possible revision of the nuclear power source principles in the Legal Subcommittee. In our view, consideration of this agenda item should also be suspended at the next session, in 1996.

In considering the issue of the duration of the session of the Legal Subcommittee, we welcome the Subcommittee's implementation of the practice of allocating very flexibly the time needed for the discussion of current agenda items. We think that this is an appropriate procedure that should be followed in the next session, without prejudice for other sessions. This arrangement, however, should not preclude other efforts

to further enhance the efficiency of the work of the Legal Subcommittee.

Mr. Perek (Czech Republic): Last year we proposed the separation of the definition of Outer Space, on the one hand, and the geostationary orbit, on the other, which had been discussed under a single agenda item for a number of years. The proposal found some support in statements of other delegations. It is necessary to state, with all due respect for differing opinions, that the connection of the two items has not led to progress in the last several years.

The definition or delimitation of outer space is an important question. It should be agreed upon, because it would serve a useful purpose in the future. Had we agreed on the definition in the past, it would have served a useful purpose today. Unfortunately, over the course of many years, no consensus was reached on the necessity of defining the border between airspace and outer space, and preference has been given to waiting for a possible problem to arise. Only the future will show if this was the best possible course of action.

A consensus, however, cannot be reached without political will. Therefore, the Committee should keep its freedom to remove that item from the agenda unless the recent initiatives lead to an acceptable solution. The Committee should not be restricted in its decisions by having this item linked to another, quite separate, item.

From the perspective of the geostationary orbit, which is an integral part of outer space, the Committee, again, should keep its freedom to deal with that item as necessary. There are indeed new developments there. In the course of the session of the Scientific and Technical Subcommittee we heard the presentation by the representative of the International Telecommunication Union (ITU) on a recommendation adopted by the ITU Radiocommunication Assembly in 1993 dealing with the geostationary orbit. In an annex to the recommendation, a definition of the geostationary orbit was presented for the purpose of considering environmental measures. According to that definition, the geostationary orbit is a torus of a thickness of plus or minus 300 kilometres around a mean Earth radius of 42,164 kilometres. It extends to 15° north and south.

Previous definitions of the geostationary orbit dealt with the same Earth radius, but the height of the torus corresponded to permissible deviations from the nominal position — that is, 0.1°. The new definition means an extension of the north/south dimension of the torus by 150 times. The reason for this extension is the new practice introduced — for example, by the International Telecommunications Satellite Organization — to dispense in some cases with north/south station-keeping in order to save fuel. As a consequence, the inclination of the satellite starts increasing immediately after the satellite has been positioned into the geostationary orbit, by almost 1° per year. The inclination will increase for 27 years, to a maximum of 15°, corresponding to a linear excursion from the equatorial plane of about 10,000 km. The frequency of these excursions is fairly high — twice daily: one to the north, the other to the south. According to the definition of the International Telecommunication Union (ITU), the satellite is considered to be in the geostationary orbit even when it is that far from the equatorial plane. This regime under no circumstances corresponds to what used to be called "a fixed position with regard to a point on the surface of the Earth".

My delegation is of the opinion that in our discussions account should be taken of the above-mentioned recommendation of the ITU, which appeared in one of the United Nations documents. We also consider of basic importance the statement of the ITU representative — made in a technical presentation during the session of the Scientific and Technical Subcommittee — that all requests for positions in the geostationary orbit have been met so far, thanks to the coordinating process instituted by the ITU. Therefore, we see no reason to change the ITU's present practice.

Mr. Navalgund (India): The delegation of India considers that progress in international space law should keep pace with the rapid technological and applications changes taking place in the field of outer space. For several years space technology has been developing rapidly, and the developments have been providing new possibilities and directions for applications. These developments are characterized by missions involving large and complex space systems, on the one hand, and, on the other hand, missions involving a very large number of small and micro satellites.

The spatial, spectral and temporal capabilities of Earth observation systems have been growing rapidly. Developments in the space segment of telecommunications services are characterized by several technological advances in terms of extension of lifetime, spacecraft power handling and communications payload design. New services, such as mobile telecommunications, are growing at a faster rate, and here space technology is expected to play a key role.

The rapid pace of these developments in technology and applications has also given rise to several issues that need appropriate solutions from the legal angle. Hence, more rapid progress on the legal front is essential. There are many problems that need solutions from the legal point of view, including - to name only a few - aspects such as preservation of the space environment; the equitable use of space resources; issues relating to intellectual property rights arising from advances in space technology and its applications; principles governing international cooperation; and international principles for trade in and the transfer of technology in fields relevant to the peaceful uses of outer space.

We believe that simultaneously with the consideration of matters concerning improvement of the methods of the Legal Subcommittee there should be consideration of various needs and substantial matters in respect of further development of international law related to outer space, and that this should be given the necessary priority.

I should like now to make a few brief remarks on the various items on the Legal Subcommittee's agenda.

On the question of revision and review of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, we strongly endorse the Subcommittee's decision that the principles which have already been adopted by the General Assembly should remain valid in their current form until amended. Further, we consider that the scope and objectives of any revision should be thoroughly considered, from the scientific and technical point of view, by the Scientific and Technical Subcommittee.

We also suggest that States currently using nuclear power sources in outer space should inform the members of the Committee and the United Nations about their efforts with regard to implementation of or compliance with the Principles already adopted by the General Assembly. Such action could provide the necessary confidence in the international community to ensure the safe use of nuclear power sources — a matter about which all States are concerned.

Turning to the definition and delimitation of outer space and the geostationary orbit, we wish to reiterate that these are subjects of fundamental importance. We note that we have yet to make substantial progress. We welcome the initiatives that have been considered by the Legal Subcommittee, and we look forward to further progress.

The Legal Subcommittee has had the question of outer space benefits on its agenda for a few years. Our delegation attaches great importance to progress on this item. In this regard, it also welcomes the useful discussions and exchanges of views that have taken place. In this context, we consider that the working paper submitted by a group of developing countries, which is being considered by the Subcommittee, provides a good basis for discussion. We also welcome very much the working paper submitted by Germany and France, which will facilitate further progress on this matter.

As a party to the outer space Treaty of 1967, we are strongly committed to the principles enshrined in it and we urge that further development of international measures to strengthen its implementation be encouraged. Recalling the principle, enshrined in the Treaty, that the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries irrespective of their degree of economic or scientific development and shall be the province of all mankind, we urge the promotion of international cooperation, in addition to that in the development of international programmes, to assist more robustly the development of indigenous capacity that could equip the relevant States to conduct activities related to the peaceful uses of outer space to meet their priority needs.

Mr. Suárez (Mexico) (*interpretation from Spanish*): The Mexican delegation has studied carefully and with great interest the report submitted by the Legal Subcommittee on its thirty-fourth session. We are convinced that our Committee has before it a balanced document, which not only brings together the contributions or points of view of those delegations interested in the work of the Subcommittee, but also represents an excellent tool to guide our discussions on the subjects grouped under this agenda item.

With regard to the content of the report, my delegation would like to refer, first, to the question of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. We consider that it is not enough to include this item on the agenda of the two Subcommittees, for there is a danger of giving the impression that discussion of the subject has stagnated, that progress has not been made in dealing with it, thus leading some delegations to consider the possibility of excluding it from the Committee's agenda, without including new items.

It might be asserted that in some way this situation constitutes an obstacle to progress in the process of revising the Principles. In these circumstances, my delegation would like to express its concern that all subjects on the agenda be given in-depth consideration.

With respect to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, the position of the Government of Mexico is based on the precedent that a definition of outer space must rest on practical considerations rather than on geographical arguments or delimitations. This could encourage the search for convincing formulas for determining the best way to make rational and fair use of the geostationary orbit in conformity with International Telecommunication Union principles.

I turn now to the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States. Here, my delegation refers to the informal working paper submitted by the Chairman of the Working Group on this item, which aimed to synthesize and reconcile the most viable proposals set out in the working papers before the Group. The first was submitted by a group of delegations, including my own, and the second by the delegations of France and Germany. It was understood that this important contribution by the Chairman of the Working Group would be discussed in 1996. None the less, my delegation wants to put on record that it looks forward with great interest to the revised text of the informal working paper and hopes that it will be considered in the near future.

Finally, my delegation turns to the item entitled "Working methods and agenda of the Legal Subcommittee". I take this opportunity to reiterate the views my delegation stated at the last session of the Legal Subcommittee: the consideration of items should continue until it is complete, seeking to use the full period of the session; the Subcommittee should reject ideas or manoeuvres intended to reduce our working time, when these stratagems are aimed at preventing the timely and full coverage of the issues; the addition of new items to the Subcommittee agenda should be promoted; and a preliminary document should be prepared setting out the views of delegations interested in a legal regime to prevent the proliferation of space debris and to control space debris, and in the universal applicability of the five international legal instruments that comprise space law.

Mr. Maclure (United States of America): My delegation would like to offer some general remarks on this agenda item.

At the outset, my delegation wishes to express our satisfaction with the superb leadership provided the Subcommittee by its Chairman, Mr. Václav Mikulka of the Czech Republic. In many ways, it was through his efforts that this year's deliberations of the Subcommittee were ultimately so successful.

At this point my delegation will choose to forgo reiterating the views of the United States on the substantive agenda items of the Subcommittee. Those views are well known and were fully discussed at the Subcommittee's last session. Instead, my delegation simply wishes to comment briefly on two aspects of the Subcommittee's work.

First, the United States is pleased with the progress made on improving the working methods of the Subcommittee, yet firmly believes that more can be accomplished. My delegation and others have called for such improvements for many years, and the United States was gratified to see action taken on specific measures, including the length of the session and the use of conference services, that should heighten the Subcommittee's efficiency and effectiveness as time goes by. The United States was particularly encouraged by the spirit of compromise that characterized the Subcommittee's debate throughout the session.

Finally, looking to the future, the United States considers it important that the Committee remember the role the Legal Subcommittee plays in promoting international cooperation in outer space affairs. When the Committee was first established, the General Assembly gave it the mandate to study the nature of international legal issues that might arise in the exploration of outer space. With that mandate in mind, my delegation believes that matters considered by the Subcommittee should not unnecessarily impede or inappropriately interfere with the space-related activities of member States.

As well, when viewed from a legal standpoint, the use and exploration of outer space provides unique and complicated challenges, and full benefit will be derived from the Subcommittee only if it follows an objective, considered and systematic approach to its work. This

necessarily means that any new topics added to the Subcommittee's agenda must have sufficient content to promote and advance international understanding of relevant legal questions concerning the peaceful uses of outer space.

The meeting rose at 11.40 a.m.

United Nations

A/AC.105/PV.413

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

413th Meeting

Monday, 19 June 1995, 10 a.m.
Vienna

Chairman: Dr. P. Hohenfellner ..... (Austria)

The meeting was called to order at 10.15 a.m.

Report of the Scientific and Technical Subcommittee (A/AC.105/605) (*continued*)

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (*continued*)

Mr. Mulder (South Africa): In paragraph 26 of General Assembly resolution 49/34, it is agreed that the third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE) could be convened in the near future and that, prior to recommending a date for the conference, consensus should be reached on its agenda, venue and funding.

Since 1993, this Committee, the Scientific and Technical Subcommittee and the Secretariat have done extensive work on the subject of holding a third UNISPACE. We already have a provisional agenda, as set out in document A/AC.105/575/Add.1 and in the report of the thirty-second session of the Scientific and Technical Subcommittee.

Having heard the various arguments advanced by many delegations thus far, the South African delegation is convinced that consensus does exist on numerous aspects of the proposed agenda items. One of the arguments expressed by some delegations is that the objectives of a third UNISPACE might also be achieved by other means, including intensification of work in the Committee, the Secretariat and other forms of bilateral and multilateral cooperation.

The South African delegation firmly believes that although these objectives might be achieved by other means, there could be no substitute for a United Nations conference on the peaceful uses of outer space. A third UNISPACE would, against the background of the ever-changing socio-economic circumstances and the political, scientific and technological environment, only complement the activities of this Committee, the Secretariat and United Nations specialized and associated agencies. A third UNISPACE not only would stimulate bilateral and multilateral cooperation but would also reaffirm, in particular to the developing countries, the utmost importance of space exploration, space science and technology for the benefit of mankind. It would also be an ideal opportunity for those countries not represented here to articulate their diverse needs.

Where do we go from here? Perhaps we will manage to achieve consensus soon on the subject of holding a third UNISPACE and thus make a final recommendation to the General Assembly during this session. The South African delegation would like to urge all members to ensure that we reach consensus as soon as possible.

Mr. Ologun (Nigeria): My delegation wishes to express its gratitude to the Director of the Office for Outer Space Affairs, the United Nations Expert on Space Applications and all the staff of the Office for ensuring the maintenance of such a high standard of work. This has resulted in numerous achievements on the part of the Office, as presented by the United Nations Expert on Space Applications in his report to the Committee on the activities for the 1994 to 1995 period and proposed activities for 1996.

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One of the highlights of the report relates to the issue of inadequate exchange of information, which inhibits cooperation between nations, their scientists and their professionals and is a major hindrance to national development, regional cooperation and global information.

At the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, the important role of information exchange in developmental efforts was recognized. Hence, in Agenda 21 a number of activities were proposed to enhance scientific capacity- and capability-building, at both global and regional levels, to promote the exchange of scientific and technological data and information, particularly in environmentally sound and sustainable development. Propelled by the Rio proposals, the United Nations Regional Conference on Space Technology for Sustainable Development in Africa, held in Dakar, Senegal, recommended an improvement in the existing state of information exchange within the African region. My delegation is therefore delighted that this recommendation has now resulted in the Office for Outer Space Affairs initiative called COPINE, a cooperative information network linking scientists, educators and professionals in Africa. It is hoped that this initiative, a welcome development, will be supported as planned. Nigeria is interested in and looking forward to participating in this project.

My delegation is of the view that the COPINE project could be better addressed and given focus and, hence, that it should be taken into proper account in our present efforts towards a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE). We observe that the key issues, such as agenda, finance and the degree of success of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE II), have been advanced as reasons against moving forward to a third UNISPACE.

In a highly illuminating intervention and in answer to a few key questions, the representative of India beautifully addressed most of the issues raised earlier. My delegation identifies with these views and wishes to suggest a way forward that would facilitate the Committee's reaching a quick consensus on the issue of holding a third UNISPACE: we recommend the establishment and implementation during the current session of a committee to examine all the issues raised earlier and thus find ways and means of overcoming such issues so that a third UNISPACE will be a reality.

Perhaps this would provide an opportunity for our leaders to interact and review the imbalance in national budgets that are often tilted towards defence, even in times of relative peace. This is particularly so in the third-world countries, especially in Africa. The time has come for both the buyers and sellers of self-defence materials to take stock of the cumulative effect of the arms race. There is the growing burden of debt and the inability of most developing countries to service their debts, as well as the reality that some of the contributing factors are traceable to the misplaced priorities of the Governments concerned. When there are no ready suppliers of such weapons, the desire for such misplaced investment will end or be reduced.

My delegation fully supports the holding of a third UNISPACE, as this would provide a forum for technocrats and political leaders of various Governments of both developed and developing countries to examine other methods, particularly in the area of space technology and its benefits, in fighting hunger, disease, economic stagnation and so on. Since UNISPACE II, a number of developing countries that ventured into space technology and its applications have succeeded in reversing their food, health, economic and other related situations for the better.

The Committee will recall the relevance of the theme fixed for special attention at the 1995 session of the Scientific and Technical Subcommittee — "Application of space technology for education, with particular emphasis on its use in developing countries" — aimed at addressing the needs of the developing countries in the area of space technology and its applications. My delegation fully supports the suggestion made earlier by the representative of the Czech Republic to invite the International Astronautical Federation (IAF), the Committee on Space Research (COSPAR), the International Astronomical Union (IAU), the International Society for Photogrammetry and Remote Sensing and similar bodies to prepare materials preparatory to the holding of a third UNISPACE, and the suggestion that these bodies should, in cooperation with the host country, organize a UNISPACE forum as part of a third UNISPACE. My delegation would like to suggest that this forum could be complemented with an exhibition focusing on areas that would benefit developing countries.

Mr. Tremayne-Smith (United Kingdom): My delegation would like to take this opportunity to address agenda item 5, "Report of the Scientific and Technical Subcommittee". I will begin by reiterating the United Kingdom's gratitude to Professor John Carver for his dedicated work as Chairman of the Subcommittee. The benefits of his professional guidance have been plain to see.

We shall all miss his presence, and we extend to him our best wishes for the future.

The year has seen important developments on the issue of space debris. The discussions on giving priority to the Subcommittee's discussions and on adopting a multi-year work plan are recognition of the need to understand the extent of a problem which affects our use of outer space. The United Kingdom will continue to contribute substantially on this issue, and we look forward to the issuance of a report in three or four years' time. However, we do not believe that we should, in the interim, task the Legal Subcommittee with the consideration of space debris. To do so would seem to us premature. My delegation would suggest that the report on space debris be used as the basis for any consideration of a further plan of action.

The United Kingdom has made it plain that it is content for the Legal Subcommittee to suspend work on the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, pending the establishment of a clear and recognizable need for a revision of those Principles that is accepted by all. But we do believe it to be essential that the Scientific and Technical Subcommittee continue its work. Possible interaction between nuclear power sources and space debris is just one reason why the Subcommittee should keep abreast of nuclear, technical and safety advances in the international forums.

My delegation will now address the issue of the possible holding of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE). As the Committee knows, I personally took a role in the drafting group which produced a report in the Scientific and Technical Subcommittee regarding a possible third UNISPACE. This is detailed in the report of the Scientific and Technical Subcommiteee. It can certainly be said to have been the product of lively and substantive debate. The report covers in general terms the varied topics that are of interest to members of the Committee on the Peaceful Uses of Outer Space. On reflection, my delegation is of the view that further work is necessary to define the scope of activity carried out by other organizations and, not least, other bodies within the United Nations system, the list of which I will not repeat.

We should also look closely at just what could be achieved by alternative means. By this I mean a more active Committee on the Peaceful Uses of Outer Space, as well as other means. My delegation believes that this is necessary before attempting to produce a more sharply focused agenda on which we might achieve a consensus. Some thought should perhaps be given to matching our ambitions with the realities of today. The scope of a possible third conference should be set against the budgeting difficulties facing the United Nations and its Member States.

The Chairman: We have concluded our consideration of agenda items 5 and 7.

Report of the Legal Subcommittee on the work of its thirty-fourth session (A/AC.105/607) (*continued*)

Mr. Mazilu (Romania): On behalf of my delegation, I should like to express our appreciation for the contribution of the secretariat, and in particular of Mr. Jasentuliyana, in preparing all the necessary documents for this session of the Committee on the Peaceful Uses of Outer Space.

At the same time, we would like to express our satisfaction at the able and efficient leadership provided the Legal Subcommittee by its Chairman, Professor Václav Mikulka of the Czech Republic. We must acknowledge that, in many ways, the success of our deliberations in March and April of this year was due to his efforts.

In the first part of my statement, I should like to make some general remarks concerning the activities of the Legal Subcommittee.

First, my delegation welcomes the progress made on the legal aspects of the application of the principle of the exploration and utilization of outer space for the benefit and in the interests of all States.

Secondly, we consider also that the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, adopted by the General Assembly in its resolution 47/68, should be strengthened, first through efforts by the Scientific and Technical Subcommittee with a view to creating a better framework for the use of nuclear power sources, and secondly, through efforts by the Legal Subcommittee decisions to develop the appropriate legal rules and regulations.

Thirdly, in our view, the States with relevant space capabilities have a duty to foster international cooperation in outer space science and technology and in their applications. The Governments engaged in space activities would also be called upon to share with other States, in particular with the developing countries, the scientific and technological knowledge required for the development of

programmes oriented to the more rational exploration and utilization of outer space, with a view to preserving the outer space environment for future generations.

We must recognize the role and scope of United Nations activities for strengthening and enhancing international cooperation in the field of the exploration and utilization of outer space.

Fourthly, we wish also to reiterate our view that the geostationary orbit is a limited natural resource and that all countries should have free access to it, including those that do not yet have the capacity to launch satellites. The interests of such countries should be safeguarded by ensuring that related legal principles take into account their possible future technological development.

I should like to underline that my country believes that free access to space-related information, the transfer of technology and the dissemination of space-related benefits could effectively help the less-developed countries and contribute to overcoming the differences between States in this field.

A full set of international legal standards should be devised to cover this area, establishing and supporting regional mechanisms within the United Nations. This could greatly assist in achieving those goals.

Fifthly, it is our firm view that the consensus on this issue remains solid and has been proved over the years. It is consensus that allows the Committee and its Subcommittees to work in a democratic manner and that is the basis on which all countries can productively participate in our work in order to guarantee the truly peaceful uses of outer space.

I should like now to refer to some concrete problems that are currently on the agenda of the Legal Subcommittee.

First, on the question of early review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, we agree with the view expressed in the Legal Subcommittee that the consideration of this item by the Working Group should be suspended for one year, pending the results of the work of the Scientific and Technical Subcommittee. But we would like to underline that this agreement was made without prejudice to the possibility of reconvening the Working Group on this item, if necessary.

Secondly, with regard to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, we noted with satisfaction — after intensive and fruitful discussions in the Legal Subcommittee — the intention of the delegation of Colombia to submit at the next session of the Subcommittee, in 1996, a revised version of the working paper entitled "Geostationary satellite orbit", as well as an annex explaining the ideas raised in the working paper.

It is our hope that the replies to the questionnaire on various legal issues relating to aerospace objects will provide a good basis for the Legal Subcommittee to decide how to continue our consideration of these important problems.

Thirdly, regarding the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries, we were able to study and discuss two important proposals: first, a revised version of the working paper submitted by Brazil and 10 other countries entitled "Principles regarding international cooperation in the exploration and utilization of outer space for peaceful purposes"; and, secondly, a working paper submitted by Germany and France entitled "Declaration on international cooperation in the exploration and use of outer space for the benefit and in the interests of all States, taking into particular account the needs of developing countries". It is our view that these two proposals represent a major contribution to our common efforts to determine the best ways and means of guaranteeing the equitable exploration and utilization of outer space.

We fully endorse the statement in the German-French declaration that States are free to determine all aspects of their cooperation — including, of course, development cooperation — whether bilateral or multilateral and whether commercial or non-commercial, and that States should choose the most efficient and appropriate mode of cooperation in order to allocate resources efficiently.

At the same time, the fundamental principles contained in the proposals of Brazil and other countries should be taken into account. It is our firm conviction that such principles — stipulating, first, that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the special needs of developing countries; secondly, that States with relevant space capabilities and

with programmes for the exploration and utilization of outer space should contribute to the promotion and fostering of international cooperation in outer space science and technology and in their application; and, thirdly, that States should have access to the knowledge and applications derived from the exploration and utilization of outer space for peaceful purposes on an equitable, non-discriminatory and timely basis — should be included in any final document of the Legal Subcommittee on this matter.

We hope that at its thirty-fifth session the Legal Subcommittee will be able to continue its debate on space benefits in order to determine the most appropriate approach to mutually fruitful and beneficial cooperation. As members know, the Chairman of the Working Group, in order to promote this debate at the Subcommittee's next session, produced an informal working paper merging the texts of the two working papers to which I have referred. It is our sincere belief that that informal paper will contribute to further progress on this important item at next year's session of the Subcommittee.

Fourthly, my delegation would like to make the following remarks concerning the problem of having the question of space debris included in the Legal Subcommittee's agenda.

First, everybody knows that consideration of a legal framework for such a complex matter requires careful examination of a vast amount of information that the Scientific and Technical Subcommittee has still to come up with.

Secondly, bearing these difficulties in mind, my delegation, like the Brazilian delegation, considers

> "that the Legal Subcommittee, without prejudging the results of the Scientific and Technical Subcommittee's work, could start to define preliminary parameters, which could be useful in a subsequent phase of eventual legal procedures." (A/AC.105/PV.411, pp. 16 and 17)

Like the delegations of Brazil, Pakistan and other countries, we do not see anything wrong with this idea. There is no doubt

> "that this exercise could prove helpful to the work of the Scientific and Technical Subcommittee." (ibid., p. 17)

Thirdly, it is our duty, working in this important United Nations body — the Committee on the Peaceful Uses of Outer Space — to do everything possible to find ways and means of preventing environmental disasters involving space debris. As you, Mr. Chairman, know, legal liability instruments address consequences but do little to prevent causes. We must not just think about such environmental disasters but actually take concrete action to remove their causes.

Fourthly, we know that these complex problems can be solved only through international cooperation. The mandate of the Legal Subcommittee gives it an important role in promoting international cooperation in outer space.

Fifthly, like the delegation of the United States, my delegation appreciates that matters considered by the Legal Subcommittee should not unnecessarily impede or inappropriately interfere with the space-related activities of Member States.

I turn now to the fifth concrete problem on the Legal Subcommittee's agenda to which I wish to refer.

Through the appropriate rules and regulations, based on the principles already approved, the Legal Subcommittee could and should contribute to the development of international cooperation in the exploration and utilization of outer space for peaceful purposes only. As Secretary-General Boutros Boutros-Ghali has rightly pointed out,

> "Through its global reach and global perspective, space technology can make a vital contribution to promoting international security." (A/48/221, para. 5)

What is now needed is open and sincere discussion between Member States and other international organizations concerned with space to determine the best methods of promoting and implementing the recommendations, rules and regulations to meet the actual challenges, giving innovative responses to the changing context of space and security in the post-cold-war era. And the Legal Subcommittee is the most appropriate body of this Committee and of the United Nations to take careful account of these important requirements.

I should like, in the last part of my intervention, to refer to some views regarding our responsibility for the elaboration and promotion of legal norms concerning the exploration and utilization of outer space.

First, many of us are lawyers with extremely valuable experience in the international arena. For example, you, Mr. Chairman, represent within the United Nations one of the most respected schools of law. But our job is not easy. The other day the Ambassador of Ecuador drew our attention to the complexity of our task, and Mrs. Evghenia Volokhova of the Russian Federation has explained to us how difficult it is to educate people everywhere in the world regarding space activities, and why it is so important that we do so.

Secondly, in his capacity as Chairman of the Legal Subcommittee some time ago, a former Under-Secretary-General of the United Nations, the Deputy Foreign Minister of Poland, Ambassador Wysner, underlined the importance of such a unique opportunity to work within the United Nations for the promotion of those legal norms so necessary in the contemporary world. He pointed out that if the job is being done seriously some of us have to suffer, even being kept in detention, but never giving up.

Thirdly, every member of the Committee knows from personal experience that in this complex and, unfortunately for too long, contradictory world, promotion of the principle and the rule of law in the exploration and utilization of outer space is not only an important task but at the same time a noble mission, which we can and should be proud to fulfil.

Mr. Gde Djelantik (Indonesia): I am very gratified to note that the report of the Legal Subcommittee on the work of its thirty-fourth session is very comprehensive in the elaboration of several issues of our common concern. In this regard, please allow me also to take this opportunity to express our sincere appreciation to the Chairman of the Legal SubCommittee, Mr. Václav Mikulka.

Let me now touch upon some items contained in the report.

With regard to agenda item 4, my delegation would like to reiterate its firm position on the need to establish a *sui generis* legal regime for regulating access to and use of the geostationary orbit as a limited natural resource. Such a regime should guarantee equitable access to the geostationary orbit for all States, taking account of the particular needs of developing countries and their special geographic features. It is our view that the International Telecommunication Union (ITU) has a certain responsibility to regulate the use of the geostationary orbit, particularly in the field of telecommunications.

Meanwhile, as we are all aware, there are certainly other aspects which have to be taken into account in regulating the rational, efficient, economical and equitable use of the geostationary orbit. Therefore, my delegation believes that the Committee on the Peaceful Uses of Outer Space is responsible for the legal and political aspects of the use of the geostationary orbit. The efforts of the Committee on the Peaceful Uses of Outer Space, its Subcommittees and the ITU concerning the development of principles regulating the use of the geostationary orbit should not be construed as contradictory issues but, rather, as complementary ones.

On agenda item 5 of the report, the General Assembly, in its resolution 49/34, decided that the Legal Subcommittee, taking into account the concerns of all countries, should continue its consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into account the needs of developing countries. In view of this General Assembly resolution, my delegation would like to reassert that all space activities should be conducted in such a way as to ensure that the national interests of other nations are not harmed.

My delegation believes that environmental issues, including those arising from space activities, have become a global concern and therefore require international solutions. My delegation attaches the utmost importance to the preservation of the space environment, especially in connection with factors that could affect the Earth's environment.

In this regard, we would like to reiterate our concern over the increasing amount of space debris in the geostationary orbit. With a view to giving full protection to our environment for the benefit of all mankind, while supporting the multi-year plan adopted by the Scientific and Technical Subcommittee we are of the view that the Legal Subcommittee should initiate a study of the legal framework of this matter. My delegation is aware that a legal framework for such a complex matter requires careful examination of many aspects, including a vast array of technical aspects which the Scientific and Technical Subcommittee still has to address. In this connection, my delegation shares the opinion, expressed in previous sessions by some delegations, that the study might be conducted at least in order to define preliminary parameters, which could be developed, in the long run, into a comprehensive legal framework, taking into account the

result of the study conducted by the Scientific and Technical Subcommittee.

Finally, on the working methods of the Legal Subcommittee, my delegation supports the efforts of our Working Group of the Whole to make that Subcommittee more effective and efficient.

Mr. El Ghernougui (Morocco) (*interpretation from Arabic*): The delegation of the Kingdom of Morocco would like at the outset to express its thanks to the secretariat for its hard work in preparation for the discussion of this agenda item. We also take this opportunity to express our satisfaction at the work carried out by the Legal Subcommittee, which will contribute positively to our future work in the area of outer space.

The world has entered a new era marked by radical changes in international relations. This has caused the major Powers to turn away from the arms race and towards competition in exploiting new economic interests. In these circumstances, the world takes on a certain transparency thanks to telecommunications and new technology. By way of example, we could mention direct television communications to all regions.

In these conditions, it has become difficult to persuade the developing countries and the least developed countries that they should accept the huge gap between the vast resources available to the developed countries and the minimal resources possessed by the developing and the least developed countries, or the fact that this gap is getting wider day by day.

We must devote just as much special and parallel attention to the question of the safety of spacecraft as they pass through the heavens as we do to the question of the uses of outer space and advances made there. For this reason, and in the light of our experience, we think it is necessary to consider the question of managing waste that may be left in space and its fearful effects on the environment. We may see the environmental consequences in the form of earthquakes and floods or, as a result of excessive global warming, droughts and climatic conditions that do not follow the normal pattern of seasons. All of these phenomena are brought on by a loss of global balance and the resultant effects on the environment.

The question of conquering space and the technology that is used there, as well as technology acquired through such exploration, is extremely complicated and is becoming ever more so. This creates new phenomena, and it is necessary that we consider building new structures and developing laws to govern and control them. However, on the basis of the many negative effects that we have experienced, we think that there are weaknesses in the safety and management of such technologies and with regard to environmental protection.

Parallel with the progress that has been made, we now see the ever-increasing problem of space debris, and we are conscious of the danger of a collision between such debris and any spacecraft carrying nuclear power sources, with the consequent risk of radiation. In addition, there is the difficulty arising from artificial satellites that have come to the end of their functional life but remain in space, nobody having solved the problem of how to get rid of them. Then there is the problem of the environmental effects — especially the effects on the atmosphere — of launching satellites. Further, we are aware of the need to consider developing innovative structures and promulgating laws to improve the control of these phenomena and provide solutions to the increasing related problems.

Let us start, even relatively, from the premises that outer space belongs to the entire Earth and to all mankind, that it belongs to all States and that some States have greater capacity and technological ability than others to conquer it. On that basis we can only conclude that the environmental problems we now face should be shared by all countries, without exception, whether or not such technologies are available to them. So far as responsibility for the problems is concerned, we do not want to engage in assigning blame to one group of States rather than another. What we do want to do is draw attention to the severity of the danger and make the point that we should consider the question and move in parallel with the developments in technology. We must also think about using positive aspects of technologies for the benefit of all States, just as we share responsibility for the terrible damage that is being done.

It will not be possible to use outer space for the benefit of all States, including the developing countries, without close international cooperation that takes account of the interests of all States. The delegation of Morocco therefore believes that of crucial importance is the question of preparing a legal framework which takes into account the developments and recent events in the area of the use of outer space for social and peaceful purposes, particularly in terms of international cooperation.

In this connection, we believe that it is natural that we should once again call upon those States possessing space technology and capable of conquering space to a greater

extent than others to establish a fund along the lines of what has been done in the case of the law of the sea. Such a fund would be used to implement development projects in the developing countries to enable them to improve their remote sensing networks. This would be real evidence that outer space was being used for the benefit of all States, including the developing countries.

In addition, we believe that it is essential that all States participate — each according to its capacity — in ensuring that the benefits of space technology and science are used to improve and develop sectors that are vital to them, particularly those relating to social affairs. If we devote sufficient attention to these sectors they will provide us with solutions for devastating natural disasters.

We must think carefully about preparing rules and fixed principles and about establishing more reliable structures to monitor developments in space science. At the same time, we should consider the establishment of a relative balance in international law, in terms of its being structured for the purposes of outer space.

The Kingdom of Morocco believes that the discussions and consultations that have taken place so far concerning legal aspects of the uses of outer space have enabled some progress to be made. They have, indeed, opened up new prospects. Accordingly, we believe that it is important to take advantage of this opportunity and to be guided by these new trends, which should lead us towards new, productive horizons.

Mr. Fiuza Neto (Brazil): In the light of the highly positive results of the thirty-fourth session of the Legal Subcommittee, the Brazilian delegation wishes to approach this most important item of our discussions in a mood of renewed confidence in the capacity of this Committee to build consensus. The vitality displayed in the debates of the Legal Subcommittee helps to remind us that the mechanism of consensus-building is a subtle one — an important point to keep in mind, incidentally, when we proceed with our discussions on working methods.

The Legal Subcommittee is the heart and soul of this Committee. As we know, one of the primary goals that led to the creation of the Committee on the Peaceful Uses of Outer Space was the nature, including the legal nature, of programmes dedicated to the exploration of outer space. Indeed, when we consider the recent work undertaken by our group, and when we see how much still lies ahead, it is easy to understand why some delegations, among them my own, consider this stage of our negotiations a true crossroads of extremely rich themes.

This thought gains importance when we consider that some of these themes are often connected to a vast array of other subjects of interest to us in this and other forums. In this sense, when we deal with space benefits, for instance, we are also addressing, among other themes, questions related to the transfer of technology, intellectual property and, last but not least, security.

Let me now address the report of the Legal Subcommittee.

As we know, the Legal Subcommittee is at present examining three substantive items. The item on space benefits represents, in our view, the Subcommittee's major issue at this stage — not because the other items are less important, but because of its potential in the field of international cooperation. As evidenced in recent documents and resolutions, and as reflected in the statements of a growing number of delegations throughout the United Nations, questions related to development and to peace are inherently connected. Increasingly, the United Nations is being called upon to address causes and not consequences. In this respect, the theme that naturally emerges as a solution to most of our problems is that of cooperation, especially if we view it in the context of a possible third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).

It was in the light of those considerations that my delegation welcomed the significant progress made last March towards the achievement of consensus on this subject. Indeed, the debate on space benefits was greatly enriched by the presentation of a new paper sponsored by the delegations of France and Germany. My praise does not necessarily mean that we share all the views expressed in that paper, but the mere fact that it exists speaks for itself, especially if we keep in mind that those delegations had in the past hesitated so much to join in the debate. We are now looking forward to considering next year, at the thirty-fifth session of the Legal Subcommittee, the revision of the Franco-German document announced by the German delegation. We hope those two and other delegations will be just as interested in taking a look at the revisions we will be presenting in our own paper.

At any rate, we can now count on two substantial working papers which reflect a wide range of ideas on this item. The head of the Chilean delegation to the Legal Subcommittee, Ambassador Raimundo González, who

chaired the Working Group on this item with his usual flair and ability, tried to merge the two texts without prejudice to existing working papers. It remains to be seen whether we can work on the basis of this new paper or whether we should, temporarily at least, go back to our two original documents. But one thing is sure: our debate has been greatly enriched.

As we conclude our comments on this topic, I would like warmly to welcome the decision of the Cuban delegation to join the other 11 sponsors of the working paper on space benefits contained in document A/AC.105/C.2/L.182/Rev.2.

Let me turn now to the item on nuclear power sources. This item is, at least for now, dormant. We have here a good example of the cyclical character of the work of the Subcommittee, as my delegation had occasion to mention last Wednesday afternoon in the context of the Working Group on working methods. We are perfectly happy to put this item aside for a while. In fact, no major technological innovations have emerged which could justify any revision of this item.

On the question of the geostationary orbit, my delegation believes that the exchange of views which took place at the last session of the Legal Subcommittee was stimulating and productive, providing us with a renewed basis for additional work. Progress has indeed been rather slow on this item, but if we compare reports from recent years we will note that some gain has been achieved.

With reference to matters relating to the delimitation of outer space, the approval of the working paper entitled "Draft questionnaire on legal issues with regard to aerospace objects" could open new avenues for our discussions. I again express our thanks to Mr. Eugenio María Curia of Argentina for leading us towards what could be a breakthrough on this subject.

As a concluding remark, allow me to offer some comments illustrating our deeply rooted concern with the good functioning of the legal Subcommittee — in other words, comments that have a bearing on our working methods. I refer to the necessity of placing new items on the agenda of the Legal Subcommittee. As we had occasion to say last March, the most troubling aspect of the Legal Subcommittee is not so much the difficulties we often face when discussing our items; these are quite natural considering that we work on a consensus basis. Rather, it is the fact that we do not seem to be able to engage in a thorough discussion regarding possible new items for our agenda. It is no wonder that as a consequence so many delegations are considering shrinking the time allotted for our discussions.

My suggestion is simple: let us reduce the time allotted to our work only after we thoroughly examine the list of items set out in paragraph 47 (p. 10) of the report of the Subcommittee. Only then could we take a well-grounded decision on the duration of our work. Who knows? We may even wish to go back to the duration of four weeks, as was once the case.

A final word on this issue: Paragraph 55 (p. 11) of the same report places the responsibility for analysing new items on the shoulders of those who propose them. We are prepared to meet this challenge, but consider it quite unfair, for our discussions would be vastly enriched if all delegations joined in, especially those which possess important information on the suggested issues. By crossing their arms, they could give the impression that they have second thoughts about the possibility of giving new fuel to the Subcommittee's work.

Having learned last Friday that a report just released on space debris, funded by the United States National Aeronautics and Space Administration (NASA), has, in a strong conclusion, recommended the articulation of a concerted international effort to tackle this threat to the space environment while it is still manageable, I feel compelled to draw attention to the fact that COPUOS has always been characterized by a finely tuned sensitivity to the worries and aspirations of the international community. By starting, at once, in the Legal Subcommittee a preliminary debate on space debris — and I stress "preliminary debate", not the drafting of legislation — we would live up to that fundamental tradition, giving a clear response to the growing concern — which prevails nowadays throughout the world with respect to this subject, a concern, which, by the way, seems to be shared by NASA.

Mr. Huang Huikang (China) (*interpretation from Chinese*): With respect to the report of the Legal Subcommittee, the Chinese delegation has always been of the view that the development of space technology and the implementation of space activities are inseparable from the establishment of a good legal order for space. It is therefore necessary to step up, and speed up, work on international space law. In this regard, the Committee on the Peaceful Uses of Outer Space (COPUOS) and its Legal Subcommittee can and should play a positive role. We are pleased to see that, at its thirty-fourth session and thanks t

the joint efforts and cooperation of representatives participating in that session, the Legal Subcommittee has made fresh progress in its consideration of all the items on its agenda. We commend the Legal Subcommittee for its report, and pay tribute to the Chairmen of the Subcommittee and of its two Working Groups.

An important item on the Legal Subcommittee agenda is "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries". At this year's session of the Legal Subcommittee, Brazil and 10 other delegations submitted a revised working paper entitled "Principles regarding international cooperation in the exploration and utilization of outer space for peaceful purposes", and the delegations of France and Germany submitted a working paper entitled "Declaration on international cooperation in the exploration and use of outer space for the benefit and in the interests of all States, taking into particular account the needs of developing countries".

This constitutes major progress of great positive significance, and reflects a gradual narrowing of the gap between developed and developing countries on issues related to space benefits and international space cooperation. The Working Group's consideration of those two working papers was also very constructive. With this good foundation, we are confident that the Working Group will make further progress in its consideration of this item at its next session.

The Chinese Government has always supported efforts towards the peaceful use of outer space and has advocated increasing and strengthening international cooperation in outer space for the benefit of mankind. We are of the view that, in the formulation of principles on international cooperation in outer space, full attention should be given to the following principles: international space cooperation should be exclusively for peaceful purposes; cooperation should proceed on the basis of equality and mutual benefit and recognized principles of international law; and the primary goals of cooperation should be to build up space capabilities in developing countries and to share space benefits with them, to promote exchanges of knowledge, technology and talent among States, to ensure transfer of space technologies, materials and equipment on equitable and reasonable terms, to take the measures necessary to prevent damage to the space environment, and to ensure the equitable distribution of the spinoff benefits of space technologies, taking into account the needs of developing countries.

On the question of the definition and delimitation of outer space, the Chinese delegation supports the efforts by a number of member States to break the current deadlock. The questionnaire on possible legal issues with regard to aerospace objects adopted by the Legal Subcommittee is a useful document, and we support its transmission to members of the Committee and to relevant international organizations, including the International Civil Aviation Organization (ICAO), for comment, in the hope that replies to the questionnaire can provide a basis for the Legal Subcommittee to decide how it might continue its consideration of the item with a view to contributing to its solution. Moreover, we believe that replies to the questionnaire could also contribute to the establishment of some sort of legal regime for aerospace objects.

On the question of the geostationary orbit, the Chinese delegation took an active part in discussion of the working paper submitted by Colombia, entitled "Geostationary satellite orbit". We have consistently held that the Committee's consideration of the geostationary orbit does not conflict with the functions of the International Telecommunication Union (ITU), but rather complement them. A legal regime governing the geostationary orbit should be based on the principles of equity, economy and effectiveness, and should take into consideration the interests of all States. We note with satisfaction the stated willingness of the Colombian delegation to submit to the next session of the Legal Subcommittee a revised text of this working paper taking account of comments by other delegations. We support the Subcommittee's continued consideration of legal issues related to the geostationary orbit, and hope that progress will continue at the next session.

I turn now to the question of new agenda items for the Legal Subcommittee. In view of the general agreement not to revise for the time being the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, we consider it necessary to add one or more items to the agenda of the Legal Subcommittee. We are of the view that the possible new items proposed by some delegations at this year's session of the Legal Subcommittee — such as "Status of the five outer space Treaties", "Commercial aspects of space activities" and "Legal aspects of space debris" — are important issues related to international space law and deserve in-depth study. We support continued informal consultations on this matter with a view to identifying, on the basis of consensus, an item or list of items that might

in the near future be considered for inclusion in the agenda of the Subcommittee.

Mr. Pocar (Italy): Since this is the first time I have addressed the Committee at this session, Mr. Chairman, I want to express my satisfaction and that of my delegation at seeing you continuing to preside over our deliberations. Your wisdom and long experience in guiding the debates and consultations among members constitute the best guarantee of fruitful work in the Committee.

The Italian delegation would like at this stage to make a few comments on item 6 of the agenda, concerning the report of the Legal Subcommittee on the work of its thirty-fourth session. We have examined the report with interest and endorse it with satisfaction, as it shows a certain improvement in the activity of the Subcommittee, notwithstanding the absence of any decisive achievement on the items under consideration. It is encouraging that some progress has been made in the debate, conducted under the able chairmanship of Professor Mikulka.

In our view, important progress has been made, in particular, on the item related to the application of the principle that outer space activities should be carried out in the interests of all States, taking into particular account the needs of developing countries. For the first time, the Subcommittee had before it two different documents for consideration. This certainly marks a turning-point in the debate on this item. We wish to express our gratitude to all the delegations that prepared the documents on the basis of the discussions held so far and to the Chairman of the Working Group for the informal paper he presented at the end of the session.

The Italian delegation welcomes in particular the submission, at the last session, of the working paper drafted by France and Germany. Without in any way minimizing the merits of other proposals, we think that this document reflects more accurately the current realities of international cooperation and the interests of all States, including developing countries. It is our view that the basic freedom of States to choose the forms of cooperation that best meet their interests, provided that their terms are fair and well balanced, should be underlined. In this context, the role of regional cooperation, including cooperation between developing countries, and the role of bilateral cooperation between developing and industrialized countries should be particularly stressed. We look forward to seeing these principles recognized in a future declaration, convinced as we are that the major benefits from outer space activities will derive — and this is true also for developing countries — from the sharing of the free market and participation in international joint ventures that involves the sharing of acquired experiences. Italy has in this area a long-standing tradition of bilateral cooperation with developing countries, including within the framework of the European Space Agency and the European Union.

Let me now turn to the item on the Legal Subcommittee's agenda concerning the delimitation of outer space and the geostationary orbit. We have followed with care the debate on possible legal issues with regard to aerospace objects and have taken note of the revised questionnaire submitted by the Chairman of the Working Group. Although we still must reserve our position at this stage, because a number of questions, including obtaining the views of the International Civil Aviation Organization, should be clarified before we engage in a debate on the issue, we must now, in order to avoid any misunderstanding, reiterate our concern at seeing these discussions linked to the question of the definition and delimitation of outer space. We may be prepared to take part in future discussions concerning the possible legal implications of the flight of aerospace objects, but we maintain that the issue does not presuppose any agreement on the delimitation of outer space.

Decades of space activities carried out by States have shown that no geographical delimitation is necessary for the satisfactory regulation of such activities. Moreover, the debate within the Legal Subcommittee is at a deadlock, which is not surprising, since it is a purely theoretical debate. Indeed, it is not for the Subcommittee or for COPUOS, after having codified the general features of outer space law in the 1967 Treaty and subsequent treaties that set the legal general framework for space activities, to engage in establishing legal rules on purely academic grounds that have no direct impact on concrete space activities.

If the implications of the flight of aerospace objects are to be examined at any stage and in any form by the Legal Subcommittee, the issue has to be taken up with a functional approach to the concrete problems that it may raise, and the debate should develop in a context free from any unnecessary linkage with other legal issues. Let me add that the question of aerospace objects has no link either with the other issue included in item 4 of the agenda, the use of the geostationary orbit.

The preceding considerations lead me to the question of the working methods of the Legal Subcommittee. There is no doubt that the steps taken so far to rationalize the

Subcommittee's work schedule have had good results and that a flexible approach to the agenda has proved successful. However, we think that further measures are necessary to enhance the Subcommittee's efficiency.

On the one hand, the agenda should be rethought in order to remove from the consideration of the Working Groups measures on which no more than a general debate has taken place for a significant number of years. This would enable the Subcommittee to take up in the future other matters whose discussion might prove more fruitful. From this perspective, my delegation has underlined on many occasions the importance of the problems related to the protection of the environment in connection with space activities. The subject of space debris appears to be the more urgent issue in this area, and we have followed with interest the positive developments in its consideration within the Scientific and Technical Subcommittee, with a view to seeing it later taken up by the Legal Subcommittee.

On the other hand, the attention due this issue, whose legal aspects are already under careful consideration in other forums, should not prevent the identification of other subjects that might be included in future on the agenda of the Legal Subcommittee, bearing in mind that the outcome of informal consultations should be carefully evaluated by this Committee before any formal proposal is finalized for adoption.

Mr. Webb (Canada): We appreciate this opportunity to address this item. We have reviewed the text of the report of the Legal Subcommittee and find it entirely acceptable. I will therefore limit my comments to some issues raised in the course of our more recent discussions.

On the issue of the working methods, my delegation can only welcome the common understanding that seems to have developed concerning the need to improve on the status quo. We note with appreciation the very interesting ideas put forward in the course of the meeting of the Working Group of the Whole last week.

The overriding objective, as you, Mr. Chairman, have so rightly pointed out, is still to make more efficient use of conference facilities and of the time and resources of the Chairman, the secretariat and Member States. My delegation looks forward to continuing the discussion on this important issue during the course of this week, with a view to reaching prompt consensus on measures to be implemented. We believe that consensus is within reach, and we find most attractive the greater flexibility demonstrated and already in place.

With specific reference to the agenda of the Legal Subcommittee, my delegation welcomes the consideration given at the Subcommittee's last meeting to the possibility of introducing new items. We intend to work with other delegations to ensure an agenda of contemporary relevance.

Moving now to the issue of the legal aspects of the exploration and use of space for the benefit and in the interests of all States — developing countries in particular — my delegation can only note with satisfaction the increased attention paid to the importance of greater cooperation between States. There is no doubt that space technologies and applications can play an important role in fulfilling specific needs of all countries, both developing and developed. This could naturally involve enhanced collaboration between States on specific projects and the improved sharing of technology, know-how and the results of experiments, on mutually acceptable terms.

However, my delegation remains unconvinced that a General Assembly declaration of principles is necessary to achieve this end, given the existing rules and principles already in place in the relevant space treaties and General Assembly resolutions. Nevertheless, we welcome the contributions of the delegations that put forward working papers on this issue, particularly the paper of Brazil and several other delegations and that of France and Germany.

Mr. Louet (France) (*interpretation from French*): I do not have much to say on this point, but I should like to fill out the discussion on the various chapters of the Legal Subcommittee's report. Chapter I, which deals with nuclear power sources in outer space, and Chapter II, which relates to the definition and delimitation of outer space, do not require any comment from me, and as I dealt with Chapter III, which concerns the exploration of space in the interests of all States, during the general debate I shall not speak about that.

However, I should like to comment on chapter IV, "Working methods and agenda of the Legal Subcommittee". In my view, we cannot accept this chapter as it stands. I should like to bring up a problem of methodology. I understand that this afternoon we shall be meeting as the Working Group of the Whole, with the task of examining the working methods not only of the Committee but also of its subsidiary bodies, the Legal Subcommittee and the Scientific and Technical Subcommittee. As it seems to me that chapter IV will be considered at that time I should like to know in what framework you, Mr. Chairman, would like the discussion to proceed.

The Chairman *(interpretation from French)*: In response to the question by the representative of France, I should like to say that I am entirely open to having this subject dealt with this afternoon, when we meet as the Working Group of the Whole to discuss matters related to the working methods and records of the Committee and its subsidiary bodies.

The meeting rose at 11.45 a.m.

United Nations A/AC.105/PV.414

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

414th Meeting
Tuesday, 20 June 1995, 10 a.m.
Vienna

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.20 a.m.

Report of the Legal Subcommittee on the work of its thirty-fourth session (A/AC.105/607) *(continued)*

Mr. Zoubarev (Russian Federation) (*interpretation from Russian*): We believe that many of our colleagues will agree that, for the first time in a long while, participants in the work of the Legal Subcommittee had a really productive discussion of the geostationary orbit this year. The Russian delegation shares the view favoured at the Subcommittee's session by a majority of delegations representing diverse groups of countries that we need to vitalize the dialogue on the multifaceted question of the equitable use of the geostationary orbit. We think it has been possible to correct, if not the essence, at least the general context of the exchange of views. That context has changed, and the discussion has evolved towards more careful and constructive consideration.

The working paper submitted by Colombia raises a number of issues related to the use of the geostationary orbit that are of interest to many developing countries. The specifics of the working paper need careful refinement, because they touch on the interests of States and the general development of satellite communications systems. For that reason, we are pleased at the intention stated at the Subcommittee's session by the delegation of Colombia to prepare by next session a revised version of its draft principles for the use of the geostationary orbit, taking account of all views expressed at the session.

This year we all gained a better understanding that for cooperation on the use of the geostationary orbit in the interests of all States we need to define clearly the logic, objectives and practical aspects of any possible review of the principles governing such cooperation. It is well known that existing norms for the use of the geostationary orbit state that all countries have an equal right to access to the geostationary orbit and orbital frequencies and make provision for the relevant communications authorities to allocate frequencies either by agreement or in keeping with the plan under which all States members of the International Telecommunication Union, including developing countries, have the right to make use of the geostationary orbit for satellite communications and broadcasting systems in frequency bands most appropriate to their needs.

But in practice, the allocation plan is not being used, and in fact amounts to a reserve capacity for the geostationary orbit intended first and foremost for use by developing countries. Allocation of non-plan frequency bands, through coordination and on the principle of "first-come, first-served", makes it possible to meet the needs of the countries that are the best prepared now to make effective use of those frequency bands. The existing ITU procedures for coordination and for the registration of objects are no longer altogether suitable. Frankly, they have resulted in considerable saturation of the orbit by non-existent "paper" satellites. The ITU plenipotentiary conference held at Kyoto in 1994 began work on improving the existing system for coordination of frequencies; that work is being continued by an ad hoc working group on review of existing principles of coordination. The task of the working group is to regulate access to frequency and orbit resources so as to improve the use of the geostationary orbit and to ensure maximal throughput for the orbit.

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Let me say a few words about cleaning up the geostationary orbit. Systematic research and project-related work seem to indicate that it would be possible in principle to solve the problem of large fragments of space debris polluting the geostationary orbit. A great deal of experience has been gained in science, technology and design, making it possible to manufacture space vehicles that can remove spent satellites from orbit; this provides the technical basis for solving this problem. The main thing is to determine the most effective and economical means of removing such satellites. To be sure, these matters must be discussed in the Scientific and Technical Subcommittee before they are submitted for consideration in a legal forum with a view to formulating the relevant recommendations.

Mr. Boroffice (Nigeria): I am grateful for this opportunity to comment briefly on the report of the Legal Subcommittee on the work of its thirty-fourth session. There is no doubt that the report is excellent both in scope and in depth. My delegation welcomes the decision of the Subcommittee to conduct its session with the utmost flexibility, which would not necessarily lead to concluding the session in two weeks.

Members will have observed that many developing countries have not been able to participate actively in the sessions of this Committee and its Subcommittees, for various reasons.

One probable reason is the financial implications of keeping delegates here for a period considered to be too long. Shortening the session of the Legal Subcommittee, when the need arises, will no doubt reduce the cost of attendance and may consequently foster more participation. It is therefore a welcome development that at its 584th meeting the Subcommittee agreed to conclude the session ahead of time without affecting efficiency or productivity.

With regard to nuclear power sources in outer space, we agree with the report of the Subcommittee that the revision of the Principles is quite premature and unwarranted at the present time, in the light of the information available on the subject. Consequently, the Subcommittee decided to suspend the Working Group's consideration of this item for another year, pending the results of the work in the Scientific and Technical Subcommittee. The issue of the use of nuclear power sources in outer space is of concern to all because of its far-reaching implications for human health. My delegation is, however, pleased to note that the suspension of the consideration of this item by the Working Group is without prejudice to the possibility of reconvening to deal with the item if, in the opinion of the Legal Subcommittee, sufficient progress has been made in the Scientific and Technical Subcommittee at its next session.

On matters relating to the definition and delimitation of outer space, it is the view of my delegation that, with the finalized text of the questionnaire on possible legal issues with regard to aerospace objects, substantial progress has been made in the consideration of the item. My delegation believes that the circulation of the questionnaire should not be restricted to member States, but should also include the International Civil Aviation Organization and other relevant international organizations, for the benefit of States not members of this Committee.

With regard to the character and utilization of the geostationary orbit, my delegation notes with satisfaction the Subcommittee's deliberation on the working paper entitled "Geostationary satellite orbit", presented by the delegation of Colombia, which has led to the sponsor's decision to submit a revised version of the paper in consultation with the International Telecommunication Union (ITU) and the Secretariat.

It is the view of my delegation that the status of the geostationary orbit as a limited natural resource is not in contention. While we agree that the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies covered activities in and related to the geostationary orbit, a legal regime for regulating access to and use of the geostationary orbit is necessary. This is because it is a limited resource which might become saturated. We agree that such a regime should guarantee equitable access to the geostationary orbit for all States, taking particular account of the needs of developing countries, including the equatorial countries. This is without prejudice to the legal definition of developing countries.

Mr. Campos (Portugal): Concerning agenda item 6, "Report of the Legal Subcommittee", we agree with the consensus view that the topic of nuclear power sources needs no further consideration in the near future.

Concerning the topic of the exploration and utilization of outer space for the benefit and in the interests of all States, we note that the French-German working paper on space cooperation adds several important subjects to those mentioned in other working papers on the same topic. Altogether, the existing set of

working papers provides the Legal Subcommittee with a broad range of views from which a balanced and comprehensive approach to international space cooperation may be derived.

The other important subject currently on the agenda of the Legal Subcommittee is access to the geostationary orbit and the delimitation of space. The continuing debate does not seem to have succeeded yet in narrowing the gap between opinions that has persisted for so long.

Concerning space debris, we wish to reiterate the opinion that the subject has not reached the necessary maturity at the technical and scientific level to make a legal approach productive in the short term. We believe that the two main recurrent items on the agenda of the Legal Subcommittee — namely, access to the geostationary orbit and delimitation of space and the exploration and utilization of outer space for the benefit and in the interests of all States — could be fully discussed in a two-week session while still leaving some time for the introduction of new topics.

Mr. Louet (France) (*interpretation from French*): I have asked to speak a second time on agenda item 6 because, as you will recall, Mr. Chairman, yesterday I asked when you wanted us to deal with part IV of the report, "Working methods and agenda of the Legal Subcommittee". I did not feel that this should be a separate item from our consideration of the Committee's working methods, because the Committee is seized of the question of its working methods as well as those of its subsidiary bodies. It would be somewhat schizophrenic to try to separate these two linked questions: the working methods of the Legal Subcommittee and working methods in general. They cannot be separated. As we did not have an opportunity to make these comments yesterday, because the discussion of the report of the Legal Subcommittee had not begun when we discussed working methods, I would now like to offer some thoughts on part IV of the report.

My first comment is on the agenda — the actual subjects to be dealt with by the Subcommittee. This is addressed in paragraphs 47, 54 and 55. Paragraph 47 lists a number of items to be considered by the Subcommittee on which no general consensus has been reached. Paragraphs 54 and 55 deal with "New items for the agenda". Paragraph 54 says that the Chairman should conduct wide-ranging consultations in order to come up with a list of subjects that may be considered for future inclusion in the Subcommittee's agenda.

I am not going to analyse this, but it would appear from this text that the Subcommittee has given itself a sort of general mandate to decide its own agenda. I am prepared to accept that the Subcommittee may make suggestions, but nowhere in this text does it say that these suggestions require the agreement of the Committee. It seems to me that it is not up to us to come up with subjects, but we certainly should give the Subcommittees a mandate to confirm our agreement. This is what we did *vis-à-vis* the Scientific and Technical Subcommittee, and that is exactly what our Committee has to do: rule on the working methods of both the Committee and the Subcommittee. We are here for a reason, and we should tell the General Assembly whether we agree with the way in which subjects might be dealt with in the Subcommittee.

In general, I detect a tendency in the Subcommittee to consider itself an autonomous body generating its own rules and its own agenda. I think we must oppose that tendency and assert that it is up to us to guide the work of the Subcommittee.

My second comment is on paragraphs 52 and 53, which deal with the general exchange of views and other matters, issues that we tackled yesterday in the context of the paper that was before us then. Paragraph (d) of the informal paper on working methods suggests — and not a single delegation objected — that the general exchange of views should be eliminated. But now we have a document suggesting that we keep it. I think that there is a problem here that we must solve once and for all.

When the two Subcommittees meet it is to carry out certain specific tasks which we have entrusted to them, not to express general views. I must admit that I was dismayed when I took part in the last two meetings of the Legal Subcommittee, an experience that was almost degrading to the United Nations. The Committee unduly prolonged its meetings on any pretext — general exchange of views, review of working methods, other matters, consideration of taking on board subjects outside its competence that should be dealt with in other forums, as if for some delegations the main purpose of the Committee's work was to fill in time by any means possible.

If this Committee is to command any respect, an ability that it is fast losing, we must ensure that it does its work — that is, deal with specific subjects. That is why I believe that we should deal with both the paper on

working methods and the report in order to compare and revise them, specifically in this area.

I turn lastly to paragraph 56, which concerns me more because of what it does not say than because of what it does way, which is:

> "The Subcommittee agreed that matters related to the membership of the Subcommittee and its Chairmanship are not within the Subcommittee's competence". *(A/AC.105/607, para. 56)*

The Subcommittee considers that it is not competent to deal with certain matters, which therefore should be dealt with by the Working Group of the Committee on the working methods of the Committee and its subsidiary bodies. What I do not like, however, is the implication that our Committee is competent on these matters only. We should tell the Subcommittee that our Committee is competent not only on this item, but on all the others as well; the Subcommittee should disclaim its competence and recognize that of the Committee on everything — defining objectives, approving working methods and so on.

Those are the comments I wanted to make on section IV of the report of the Legal Subcommittee.

The Chairman (*interpretation from French*): The Chair would like to clarify matters. This part of the report of the Legal Subcommittee contains a set of recommendations from the Subcommittee to the main Committee; in other words, the Legal Subcommittee has done its work, the result of which is recommendations which the main Committee has the sovereign right to decide on; as the main Committee, we have the sovereign right to consider and pass judgement on these recommendations. So if the language of the paper we discussed yesterday, which has now become a draft part of the report of the main Committee, has achieved consensus, then it is clear that the main Committee has made use of its sovereign right to evaluate and judge the recommendations of the Legal Subcommittee.

The Rapporteur and the Secretariat, I am sure, will make major efforts in the wake of the very intensive debate we had yesterday, which, as the representative of France said, dealt with matters included in the recommendations. The Chair has high hopes that when we come to this part of the report of the main Committee we will achieve consensus. In other words, the recommendations of the Subcommittee are recommendations and nothing more. The final arbiter is the main Committee, which has the sovereign right to judge all recommendations and confirm them or, if necessary, eliminate them, and so on. That is the view of the Chair on this matter.

(spoke in English)

If there are no further speakers, we have thus concluded consideration of this item.

Mr. Curia (Argentina) (*interpretation from Spanish*): According to the time-table, I was scheduled to speak on item 6 this afternoon, so I wish to know whether consideration of this item is definitely concluded. I do not have the text of my statement with me; it is at the Embassy. I should like, therefore, to speak on item 6 this afternoon, in accordance with the approved schedule.

The Chairman: Of course the representative of Argentina can speak on agenda item 6 this afternoon if it is not agreed that we should conclude it now.

Therefore, we will not conclude consideration of agenda item 6, and the representative of Argentina will speak on that item this afternoon. I would appeal to representatives, however, in view of our intensive discussions yesterday on one of those areas on which I dare to hope that we will achieve consensus, to bear in mind that once the list of speakers is exhausted, we can move on to the next agenda item in order to save time, or allocate that time to appropriate informal consultations on other subjects.

It would be helpful for me to know if any other delegations, apart from Argentina, wish to speak in the afternoon. Do any other delegations wish to speak under agenda item 6?

Mr. Heiremans (Chile) (*interpretation from Spanish*): Ambassador González would like to speak this afternoon on item 6.

The Chairman: We have two speakers for the afternoon: Argentina and Chile. Do any other delegations wish to speak this afternoon under agenda item 6?

Mr. Ribeiro (Brazil): We would request you, Mr. Chairman, to leave some time open for Brazil to respond to the interesting comments just made by the representative of France. We are considering the

possibility of responding to some of those comments in the afternoon, but we are still giving it some thought.

The Chairman: As there are three speakers listed for this afternoon under agenda item 6, we shall not conclude our consideration of that item now.

Spin-off benefits of space technology: review of current status

Mr. Hodgkins (United States of America): It is my pleasure today to review the recent developments in the secondary application of space technology, commonly known as spin-offs. Indeed, this is the Committee's opportunity to present how the space programmes of the world make use of their technological capabilities to improve the quality of life for their general publics.

But this discussion is not limited to those countries with the capacity to conduct space operations. Even more important are the potential contributions of the representatives of developing countries, some of which have space programmes. The developing countries are in a unique position to guide consideration of this topic in the coming years by identifying from their perspectives the particular fields — whether health, energy or other matters — where the problems are most pressing.

A multilateral process of dialogue and exchange of common experiences in this area can assist all our efforts to apply this technology to the solution of problems on Earth. It will enhance this Committee's standing within the United Nations system and, in the process, will enlarge the opportunities for all nations to participate in the benefits derived from space exploration. That is why my delegation is pleased to announce that the United States and the United Nations Programme on Space Applications will organize in 1996 a United Nations conference for developing country experts on adapting space technologies to promote sustained development.

I want to say a few words about how the United States is organized at the national level in this aspect of our space programme. In our opinion, advances in space technology and research should, to the maximum extent possible, find their way into other sectors of the economy. Both the public and private sectors have to be involved. In the area of spin-offs, it is our experience that there are few substitutes for the ingenuity and creativity of the individual operating in the private sector.

Through the Technology Utilization Programme, the United States National Aeronautics and Space Administration (NASA) conducts a number of information dissemination activities. In addition, to distributing to United States industry written materials on technologies developed, NASA conducts a series of conferences, seminars and workshops designed to encourage broader private sector participation in the technology transfer process and to make companies aware of the NASA technologies that hold promise for commercialization. Companies invited include representatives from several sectors of the economy, including health, energy, consumer goods, the environment, public safety, transportation and manufacturing. NASA has found this interactive process to be an extremely effective mechanism for increasing awareness of the potential of space-derived advances outside the traditional space community.

In looking to the future, we believe that with the deployment of the international space station these types of spin-offs will multiply and become even more routine. We are convinced that, through our partnerships with Canada, Russia, European Space Agency States and Japan, the international space station will provide fertile ground for spin-offs well into the next century.

I should like now to review some of the more important examples of spin-off technologies commercialized during 1994.

The health and medical sector continues to be one of the most productive areas for the transfer and application of space-related technologies. One example of a spin-off technology includes the development of a robotic assistant — the Automated Endoscopic System for Optimal Positioning (AESOP) — to aid in the performance of safer surgical procedures. Procedures such as gall-bladder removal, hernia repair, orthopaedic surgery, gynaecological surgery and neurosurgery employ the aid of AESOP. AESOP was developed with the assistance of NASA's Jet Propulsion Laboratory, based on its expertise in the development of semi-autonomous systems for assembling space structures and servicing spacecraft. This state-of-the-art surgical assistant not only minimizes risk and time spent in the operating room, but also improves the quality of the procedure by allowing the surgeon to directly control the field of vision in a smooth and steady movement.

Another spin-off in the medical field is the development of a breast-imaging system that permits

needle biopsies instead of more difficult surgical biopsies. The key component in this system is a highly sensitive charge coupled device which was developed for a space telescope imaging system by the NASA Goddard Space Flight Center for future use on the Hubble Observatory. The device provides images of breast tissue more clearly and efficiently than the conventional X-ray film screen technology. If required, the procedure can be performed under local anaesthesia, with a needle instead of a scalpel, thus leaving a small wound and sparing the patient pain and scarring. The patient can walk out of the office minutes after the procedure and resume normal activities.

The area of environment and resources management has also benefited from space-developed technology. In the industrial area, the possibility - indeed, the frequency — of toxic pollutants' infiltrating our oceans and waterways has become a growing concern for the safety of human and marine life. A product known as the petroleum remediation product (PRP) has been invented to clean up environmental hazards, such as oil spills, using a process called "bioremediation" — in other words, encapsulating live cells. The PRP incorporates technology developed for the fabrication of micro-capsules by the NASA Marshall Space Flight Center and NASA's Jet Propulsion Laboratory.

The PRP is a bioremediation delivery system consisting of thousands of microcapsules that contain micro-organisms. The micro-organisms degrade hydrocarbons — organic "fat" found in petroleum — by secreting enzymes that transform oil into carbon dioxide and water. These elements are released into the environment, leaving residue that is environmentally safe and can be consumed by fish as food.

These are only a few examples of the recent developments in our spin-off programme. The Secretariat will be distributing to all delegations a very nice NASA publication on the 1994 additional spin-offs, which reviews in greater detail the scope and nature of recent developments in our technology transfer programme.

The Chairman: I thank the representative of the United States for his very informative statement on spin-off benefits.

Mr. Navalgund (India): The progress in promoting and realizing spin-off benefits of space activities in India during the last year has been substantial. Since its inception, the Indian Space Programme has been actively seeking to diffuse the knowledge and skills gained in the development of space technology and its applications for the larger benefit of society. This is pursued through the policy of technology transfer on a promotional basis to encourage access to and utilization of technologies for various spin-off applications. The technology-transfer scheme instituted by the Indian Space Research Organization (ISRO) has resulted in the transfer of 225 technologies, which served to expand space-application markets in fields such as telecommunication, meteorology, natural-resources management and a significant number of spin-off uses.

During fiscal year 1994-1995, technologies for nine new products and processes have been transferred to Indian industries. To name but a few of these, we have the Signal Processor Unit, chemical formulations for adhesive applications, laser rangefinder, auto-focus enlarger, coatings — such as the anti-reflection coatings — catering to various segments of the market, Star sensors and Invar filters.

The last year has also seen a growing demand for some of the spin-off products earlier commercialized in industry and thus provided scope for additional licensing to new industries. Examples of such products include precipitated silica from husk ash, non-toxic chemical hand-cleaning agents, the single-component flushing system, optical reflectors and low-cost image-analysis equipment.

In addition to the technology-transfer scheme, consultancy services were initiated by the Indian Space Research Organization to diffuse its expertise in various areas to the industrial sector. To date, over 130 consultancy projects have been executed by ISRO for the benefit of industries to assist in their diversification and product-development efforts. This scheme has evoked a good response from industry and other organizations. All in all, some 500 industries, ranging from small to large, have benefited from their partnership with the space programme.

Several promotional measures have been adopted to encourage greater participation and stimulate the interest of industries in developing spin-offs from the space programme and to promote industry interface activities. These include dissemination of information on potential products and technologies through announcements, publications, product demonstrations, participation in seminar meetings, exhibitions, industry meets and so on. Various other initiatives, such as conducting market surveys on potential technologies and the adoption of

promotional pricing policy, are also undertaken to promote effective technology transfer.

Given the multidisciplinary nature of space activities and the broad range of space activities in India, the technology transfers from the space programme to industries have recorded steady growth and achieved a high success rate. No doubt a sound approach to design and a rigorous quality-assurance culture for space efforts are responsible for this. Through the non-exclusive policy of licensing adopted by ISRO, competition is encouraged both in the selection of recipient industries and in the marketing of products.

The Indian Government has recently set up the Antrix Corporation, a corporate entity catering to the commercial activities related to the marketing of products and services of the Indian Space Research Organization. Through this, the Indian Space Research Organization will be pleased to consider and extend know-how transfer and other services relating to spin-off products to interested users and organizations in other countries.

Mr. Piso (Romania): I am sure I have the Committee's full agreement that spin-off benefits of space technologies have existed ever since the start of the space age, at the beginning of the second half of this century. Rapid progress in, *inter alia*, telecommunications, satellite remote sensing and technologies under micro-gravity conditions has generated a growing market and led to the permanent necessity to take space into account. The continuous improvement and extension of space technologies has had an effect on a multitude of areas of human activity. I should like to emphasize the following facts: first, space technologies push the development of major human economic and social activities, and, secondly, without space technologies the present state of humankind could be seriously distorted and planet Earth might not function without their support.

The evidence for this has been widely debated, fact by fact, during the sessions of the Committee on the Peaceful Uses of Outer Space and its component Subcommittees, a good result being the growing consideration given by Member States to this field of activity of the United Nations.

I should like to call the attention of the Committee to some points related to this agenda item.

An important concept in the consideration of the spin-off benefits of space is technology transfer. It is interesting to observe that space enriches the standard methods of implementing technologies. Technology transfer may occur, first, from space to the Earth in particular, technologies developed for spacecraft are transferred to ground applications; secondly, from space to space — orbited scientific instruments are transformed into technological devices on board spacecraft; and, thirdly, from Earth to space — Earth-dedicated instruments and materials are orbited in order to extend their performance, due to the special conditions provided by the space environment.

It is clear that we may think of a permanent cycle of transfer between Earth and space, each step providing improvements in the particular technology and the benefits that emerge. This is a unique feature of the space-technology-transfer process which should necessarily be considered in the assessment of spin-off benefits.

We note with pleasure that the Scientific and Technical Subcommittee selected a theme for special attention at its thirty-third session relating to the utilization of micro-satellites and small satellites, especially for developing countries. We may say that micro-satellites and small satellites offer a means of increasing the speed of technology transfer, leading to an increase in space spin-off benefits. The low cost of missions, the facilities in quality assurance and testing for scientific payloads and the possibility of orbiting micro-satellites with small commercial launchers or as passenger payloads are all arguments that Member States should take into account in designing their own space programmes.

In particular, micro-satellites may diminish the monopoly of large corporations in current telecommunications and remote-sensing applications, both of which have consistent spin-off that is important for the developing countries.

A distinctive feature of the spin-off of space activities is the wide economic and social area of impact, correlated with the necessary interdisciplinary and pluridisciplinary character of the research, development and education involved in the promotion of space facilities. In this way we are trying to reach the endpoints of the technology-transfer and spin-off process, endpoints that sometimes identify education and advanced research.

I wish to express our satisfaction at the fact that the important role played by education for the development

of space activities has been emphasized by most of the speakers on agenda items 5 and 7. Progress in the implementation of regional Centres for Space Science and Technology Education were clearly outlined in the report of the Expert on Space Applications and made explicit by representatives of Member States. Information on efforts to build specific satellite tele-education infrastructure was also submitted for the Committee's attention.

Education is a space spin-off, and it generates the conditions for future space spin-off. At the same time, it is necessary, especially for the developing countries, to maintain and promote basic and advanced research, the main reason being the long-term educational impact. Low-cost research generates high-level educational spin-off — something that is needed to give developing countries access to space science and technologies and to enable them to cooperate.

We believe that to achieve increased spin-off benefits, especially for developing countries, the following points should be considered.

First, remote network information education cannot cover or eliminate direct contact between education/training facilities and students. To obtain appropriate high-level specialization, students should also be prepared in universities, training centres and research institutes. We suggest that the Committee recommend that the developing concepts of distance learning be complemented with student and teacher exchanges by agreement between interested States and organizations.

Secondly, we suggest that the Committee recommend to Member States, especially the developing countries, the promotion of basic and advanced research as a main factor in generating spin-off from space technology and to sustain space education.

The express necessity to involve all States in space activities for their mutual benefit means implicitly globalization and integration. To access those concepts, developing countries need people equipped with a global understanding of them, an understanding necessary for the appropriate management of specific local applications. Space education can be seen as a means of preparing for the future — and we must prepare for the future.

Mr. Campos (Portugal): We should like to comment on the prospects for smaller satellites and their uses in connection with Earth resources.

The main use, for Earth observation, comes mainly from high-resolution data. In order for small satellites to achieve a higher level of utility we would need to do more work on sensors that can provide high-resolution while being of limited size and weight. There are, of course, international programmes concentrating on very large and costly platforms, but one would like to look for less costly alternatives that would allow for greater participation by smaller countries. We envisage perhaps an intermediate stage of intermediate-size satellites that would have all the benefits of smaller high-resolution sensors, which are not yet feasible for very small satellites.

Mr. Suárez (Mexico) (*interpretation from Spanish*): It is undeniable that outer space has provided many advantages to a certain number of countries. It is also clear that geographic, political and economic inequalities should not prevent any State — including developing countries — from being able to use or enjoy the benefits of space technology, on a basis of equality and of security to prevent abuse.

Accordingly, it is very important to my delegation that the mechanisms for increasing international cooperation in this sphere be reviewed, particularly with regard to the transfer of data and information pertaining to the social and economic needs of the developing countries.

My delegation believes that in order to achieve that objective we could think about the need to provide benefits of this sort at reasonable cost and on preferential terms, so far as possible, for the developing countries, without failing to bear in mind another fundamental aspect — namely, the compatibility of technologies.

Mr. Szegö (Committee on Space Research (COSPAR)): The Committee COSPAR would like to address this issue at this afternoon's meeting, if that is permissible.

The Chairman: Of course. If you are not prepared to speak now, which would have the benefit of our using conference facilities, the Chair is absolutely open-minded.

Mr. Hodgkins (United States of America): I should like some clarification as to how we are to proceed on this agenda item. Will representatives of any Member States be speaking on it this afternoon?

The Chairman: So far there are no speakers listed for agenda item 8 — with the exception of the representative of the Committee on Space Research (COSPAR), who is not a full member of the Committee but an observer. Four representatives would like to speak in the afternoon on agenda item 6, and it is my intention this afternoon to proceed to agenda item 9, "Other matters".

For agenda item 8 there is still one speaker — the representative of Nigeria — and Portugal and the Czech Republic have indicated that they wish to contribute under agenda item 9, though there could be more participants.

Organization of work

The Chairman: Following the technical presentation that is about to be given by the representative of India, Mr. Chandrasekhar, the meeting will be adjourned, but, as I said at the beginning, the remaining time should be used for informal consultations between interested delegations on the outstanding issues — specifically, consultations on a Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, coordinated by the Rapporteur and the United Kingdom.

Technical presentation

Mr. Chandrasekhar (India) made a technical presentation to the Committee.

The Vice-Chairman: I should like to express the Committee's sincere thanks to the delegation of India for a presentation not only interesting but also very useful to everybody.

Organization of work

The Chairman: This afternoon we shall continue our consideration of agenda items 6 and 8 and begin our consideration of agenda item 9.

We hope to begin consideration of our draft report tomorrow or, at the latest, on Thursday morning. This will, of course, depend on the progress we make with regard to the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, working methods and other outstanding matters.

The meeting rose at 11.45 a.m.

United Nations A/AC.105/PV.415

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

415th Meeting
Tuesday, 20 June 1995, 3 p.m.
Vienna

Chairman: Dr. P. Hohenfellner . . . . . (Austria)

The meeting was called to order at 3.15 p.m.

Report of the Legal Subcommittee on the work of its thirty-fourth session (A/AC.105/607) *(continued)*

Mr. Curia (Argentina) (*interpretation from Spanish*): My delegation would like to refer briefly to the work carried out by the Legal Subcommittee at its thirty-fourth session.

I should like to begin by acknowledging the work done by the Subcommittee's Chairman, Mr. Vaclav Mikulka, and thanking him.

With regard to the item on nuclear power sources, we believe that the decision which was adopted on that item was wise and at the same time realistic. It is an illustration of the outcome of the intelligent application of flexibility.

The work carried out on the item on the definition and delimitation of outer space has led to qualitative progress with the approval of the famous questionnaire. My delegation considers that the consensus achieved through the efforts of various delegations should translate into appropriate responses to and comments on this questionnaire. This would enable the Subcommittee to make some progress in its consideration of the item. In this sense, my delegation supports the approval of the questionnaire and its timely submission to States.

The discussion on the item on the geostationary orbit was reasonable and wide-ranging. We await with a good deal of interest the new paper to be submitted by Colombia at the next session of the Subcommittee. We are sure that this document will inject new ideas and approaches which, in turn, will enable us to make progress in our work.

With regard to the item on the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries, my delegation considers that the new paper submitted by France and Germany, by approaching the subject from a different angle, will enrich the debate. On the other hand, we believe that the unofficial paper produced by the Chairman of the Working Group could serve as a guide for the work in 1996.

My delegation considers that the deliberations on the working methods and agenda of the Legal Subcommittee have been fruitful. In this sense, we believe that many ideas and trends have emerged, and we express our decisive support for the measures aimed at strengthening the efficiency and the effectiveness of the Subcommittee's work.

Mr. González (Chile) (*interpretation from Spanish*): I should like to begin by stating for the record my delegation's surprise at hearing this morning that the Legal Subcommittee's session was a matter of embarrassment for the United Nations. We should like, frankly, specifically and in the most categoric way possible, to reject this assertion.

We consider this an affront to the representatives who went to that session to work. In addition, it is not in

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keeping with the atmosphere that has always prevailed in this Committee and its subsidiary bodies.

I would now like to mention briefly some of the central aspects that in my opinion constituted the cardinal points before the last session of the Legal Subcommittee and that are set forth in its report. If one reads the report with a certain degree of seriousness and even a minimum of attention, without being distracted by activities that I would call extracurricular, one can see that the document shows that progress has been made on all of the issues it deals with. My colleague and friend the representative of Argentina has just mentioned the progress achieved, for example, on the item on delimitation, a subject on which, as the Committee knows, progress had been blocked almost from the start. For the first time — and this is why I pay tribute to the representative of Argentina, Chairman of the Working Group — there has been a major opening thanks to the introduction of a questionnaire that will certainly make it possible to establish at least some legal elements so that work can progress in some direction. At least we now have some direction in this regard.

Moreover, we cannot overlook the tremendous efforts made by the delegation of Colombia in submitting the working paper on the geostationary orbit. We are not entirely in agreement with that document — there are paragraphs about which we have serious doubts — but we value the serious and responsible effort to provide a legal framework for a resource that must necessarily be regulated so that all countries can have real and equitable access to it.

I turn now to agenda item 5. It must be stressed that this item, as it was conceived and given its title, constitutes a revised version of article I of the outer space Treaty, because the idea that the exploration and utilization of outer space should be carried out taking into particular account the needs of developing countries has been added. In a way, such ideas are already established in article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. That Treaty states in its preamble:

> "*Believing* that such cooperation will contribute to the development of mutual understanding ..." (*General Assembly resolution 2222 (XXI), annex, fifth preambular paragraph*)

and

> "*Believing* that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development". (*ibid., third preambular paragraph*)

This, by the way, when the Treaty was being adopted, was an amendment submitted by the delegation of Brazil.

What am I trying to highlight in saying all this? First of all, it is necessary to move towards the consideration and development of a legal frame of reference for international cooperation — which is what we were trying to do with document A/AC.105/L.182/Rev.2, the paper contributed by France and Germany and, finally, the summary of the informal paper submitted by the Chairman.

The subject of international cooperation appears repeatedly in many international treaties. The definition of its legal status has even been discussed, and some treaty experts believe that this subject should be granted the character of *jus cogens* on an international level. I do not wish to get into details of doctrine on this matter, but it is obvious that the outer space Treaty makes a sharp distinction between international understanding, which is practically a given, and international cooperation, where one assumes that there should be equality of parties. In article III, for example, it says that States

> "should carry on activities in the exploration and use of outer space ... in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding." (*ibid., article III*)

Now, how can we articulate this equality of parties in an aspect of international relations where, because of the very nature of the technology gap, no such equality exists? This can be done by establishing or adding the concept of equity, which has been so irritating and nettlesome to some delegations that have not considered that equity is a widely accepted principle of international law, contained in many major international treaties, such as the Convention on the Law of the Sea, and in article 38 of the Statute of the International Court of Justice, which states that rulings can be handed down in some cases *ex aequo et bono* — on the basis of equity.

In this area, equity simply means making equality truly effective. It means trying to establish unequal treatment for countries that are not equal. It can be shown objectively and empirically that in the field of space there is an inequality between countries that must be redressed through law, especially when we consider that the conceptual frame of reference of space law is that it is the common heritage of mankind. We need only look at the beginning of the first sentence of the first paragraph of article I of the outer space Treaty, which states,

> "The exploration and use of outer space ... shall be carried out for the benefit and in the interest of all countries," — without distinction — "irrespective of their degree of economic or scientific development, and shall be the province of all mankind" (*ibid., article I*)

This makes it obvious that, within the format and framework of the Working Group's consideration of agenda item 5, work must be done to come up with the most effective and appropriate way to make it possible to implement the applications of space technology for the benefit of all mankind, without disregarding the rights of intellectual or industrial property and industrial property of the countries that are the main possessors of this technology.

It is also a question of trying to give very clear expression to the seven principles identified in General Assembly resolution 2625 (XXV), entitled "Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations". It so happens that this Declaration, which was conceived at the time of its adoption as a Declaration containing some of the solemn principles of *jus cogens*, refers in one of its preambular paragraphs only to certain specific subjects — in this case, space. It states:

> "*Recalling* the established principle that outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means, and mindful of the fact that consideration is being given in the United Nations to the question of establishing other appropriate provisions similarly inspired". (*General Assembly resolution 2625 (XXV), seventh preambular paragraph*)

Obviously, this paragraph must be interpreted to mean that it is necessary to move ahead towards the establishment of a framework of cooperation that is consistent with the general principles of international law I have cited, the seven principles established in General Assembly resolution 2625 (XXV) and the provisions of articles I and III of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

We would also like to state that given the new concept of international security — where it is becoming clearer every day that threats are no longer from military sources but from non-military sources such as the deterioration of the environment, drug trafficking and terrorism, and others — the threats can be confronted more effectively if space technology is used as an element of preventive diplomacy, as has recently been mentioned in the basic documents submitted by the Secretary-General.

One of the most significant threats to international security today is the lack of economic and social development that is equitable for all peoples. It is clear that for much of mankind — and I use the word "mankind" as it is used in the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies — the availability and rational use of the means for international cooperation provided by space technology are crucial in solving the problems that exist.

Meteorology, disaster prevention, the detection of natural resources — in accordance with General Assembly resolution 1803 (XVII) on the permanent sovereignty of countries over their natural resources — can be really effective only if the necessary technological means are available. These technological means will become increasingly available to the world's peoples — let us not fool ourselves — if we have a regulatory legal framework and cooperation that will not be rigid and strict and subject to inflexible frameworks, but provides us with some guidelines making it possible for us to progress in this area.

With regard to the possibility of new items, this Committee has several options which can enrich our work very much. My delegation believes that a comparison, for example, of the principles of international environmental law with those of international space law — such as the principle of

intergenerational equity, the principle of intragenerational equity, and the precautionary principle - should be very carefully studied by us. We may by that means be able to reach extremely useful and interesting conclusions. The inextricable link that exists today between the topics of the environment and the applications of space technology makes it impossible to confront environmental problems without using the means made available through space technology.

In my opinion, all those facts, which I have tried to present in as organized a fashion as possible, absolutely negate the idea that at its last session the Legal Subcommittee accomplished absolutely nothing and wasted its time. My delegation, at least, is convinced that the Subcommittee's time was used in the best possible way; we did not become distracted by other types of work during the discussions and the presentation of documents by other delegations.

Mr. Lee (Republic of Korea): I would like to make some comments under agenda item 6, from the perspectives on which my country has based its research and development of space technology and its applications.

Given the continuous progress of space technology and exploration, my delegation has noted that the need to regulate outer space activities is growing urgently in the international community in the light of the demand for a rational, equitable and effective use of space benefits. We share the view that international legal norms in this area should be based upon elements that have been found to be in the common interest of all countries.

In recognition of the various achievements of the Legal Subcommittee, my delegation believes that it is important to pursue further developments in the space regime through consensus-making efforts, as space technology is rapidly innovating and the areas of application of outer space are diversifying. Attention should be paid to the possibility that the lack of an adequate legal regime coupled with commercialism may hamper the promotion of international cooperation in the peaceful uses of outer space.

With regard to the revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, my delegation shares the view that the revision of the Principles should for the time being await the results of the scientific and technical study. However, one axiom to be underscored is that the use of nuclear power sources in outer space should be regulated to ensure that it is environmentally sustainable and that it will leave outer space technologically usable.

Clearly, this issue is closely related to the problem of space debris. My delegation is pleased to note that the Scientific and Technical Subcommittee adopted a multi-year work plan to address the issue of space debris. Equipped with the results and data obtained by the multi-year work plan from 1996 to 1998, the Legal Subcommittee will be able to deal with this issue more adequately.

On the question of the definition and delimitation of outer space, the questionnaire on aerospace objects finalized by the last session of the Legal Subcommittee will be helpful as a basis for further discussion. In this regard, the replies by Member States will be instrumental in providing a firm basis for further discussion. My Government will make its best efforts to prepare adequate replies and to submit them as early as possible.

As to the character and use of the geostationary orbit, it is my delegation's view that the establishment of a legal regime for that orbit is highly desirable. The geostationary orbit has specific characteristics; it is a limited natural resource, which may become saturated unless it is regulated in an orderly fashion. We hope that during a further productive exchange of views on this subject the possibility will be considered of expanding satellite slots in the geostationary orbit as technology progresses. As we said in our general statement, my delegation is of the view that the Legal Subcommittee should be fully and speedily utilized to establish the principles or legal regime on the effective use of and equitable access to the geostationary orbit, maintaining complementarity to the activities of the International Telecommunication Union (ITU).

On the subject of outer space benefits, my delegation notes that the two working papers on international cooperation in the exploration and use of outer space submitted, respectively, by the delegations of Brazil and Germany on behalf of the co-sponsors constitute an important step forward in the development of principles on this matter.

In the hope that further discussions can be finalized in a spirit of compromise so that action-oriented international cooperation in this area can be implemented as soon as possible, for the benefit and in the interests of all States, my delegation supports the adoption of the

Legal Subcommittee's report for submission to the General Assembly this year.

Mr. Telles Ribeiro (Brazil): My delegation has already set out its appraisal of the work of the Legal Subcommittee and of the progress made at its session. At this stage I should like to make some comments regarding the observations made this morning by the representative of France on certain elements of the report of the Legal Subcommittee.

Mr. Louet referred to a number of paragraphs of that report, notably paragraphs 52, 54 and 55. I would like to make some comments of my own on those paragraphs, especially because of my role as Rapporteur, and would also like to clarify some points in my capacity as representative of Brazil. In some instances, notably with reference to the general exchange of views, I will be submitting language that will, of course, reflect what has taken place here.

As representative of Brazil, I would like to note some differences with what was said here. I will adopt the order in which the representative of France referred to the paragraphs and will begin with paragraph 54, which says that at the next session of the Legal Subcommittee, in 1996, the Chairman should conduct open-ended informal consultations, with all members of the Subcommittee, with a view to identifying, on the basis of consensus, possible new agenda items. As we know, paragraph 47 mentions a number of potential items. The view of Ambassador Louet, which I share up to a point, is that the Legal Subcommittee would analyse those items and possibly choose one or two for recommendation, and the Committee itself would then have to comment on them. I agree with that. I believe that we should also bear in mind the fact that ultimately it is the General Assembly that must approve the work of the Subcommittee. COPUOS, of course, is the parent body, but as with all other United Nations committees, our decisions are subject to final approval by the General Assembly. If we follow the step-by-step procedure Mr. Louet mentioned as a starting-point — the Subcommittee, then COPUOS — we have to keep in mind that the overall umbrella is ultimately the General Assembly.

This is important because, although many Members of the General Assembly are not members of COPUOS, they should not feel excluded from participating directly or indirectly in our work. It is at least symbolically relevant that the omnibus draft resolution takes into consideration their views as well. I agree with the representative of France that COPUOS should have a say, but we have to keep in mind the overall umbrella under which we all work here.

Turning to paragraph 55, I would mention a point that the representative of France referred to only very briefly. Since in a sense he was, not really reopening parts of the report but reevaluating them, I would like to put on record the position of the Brazilian Government with regard to this paragraph. As colleagues may remember, paragraph 55 states that the burden of putting forward new items should be placed on the shoulders of the countries that actually propose them. In our statement during the general exchange of views we said that we considered this rather unfair. We went along with the text of paragraph 55 for the sake of compromise, but we are not very happy with it; I think I am at liberty to mention this since the representative of France commented on other paragraphs.

We are not very happy because we think the discussions on the possibility of new items for the agenda of the Legal Subcommittee would be much enriched if all delegations took part in them, not in the sense of rejecting any new ideas that might emerge, but in the sense of contributing substantially to ideas that some countries might put forward. Of course, Brazil could take up the challenge of trying to act as advocate for one or two such items, but it would be unrealistic to claim that Brazil alone has the information on all these items. To the contrary, the space Powers are much better equipped to defend these items, or to criticize them in a constructive way if that is their wish.

In my view, the statement that

> "It was understood that delegations that propose new agenda items for consideration should provide a brief written analysis ..." (*A/AC.105/607, para. 55*)

covers only half of the problem. I would hope that other delegations, when they become aware of the help that some delegations could provide on possible new agenda items, would feel free to join in the debate. I think we all agree that what we want here is to give substance to the work of both Subcommittees and, hence, to that of COPUOS itself.

Only in that way will we be able to address the basic concern that the representative of France brought to our attention this morning: his feeling, which I do not share, that we did very little at the last session. I respect

his right to consider that very little was done; I think that this was a perception of his delegation, and that it has to be respected as such. But if he is really convinced that very little was done — and it is his privilege to think so — one of the ways to correct the situation would be, as we have suggested in the past, to have truly constructive discussions on alternative substantive items that we could perhaps inscribe on the agenda of the Legal Subcommittee.

Next, I have a comment on paragraph 52, which addresses the question of the general exchange of views. I want to make it very clear that my roles as Rapporteur and as the representative of Brazil mix a little. Mr. Louet said that there had been a consensus in the open-ended Working Group of the Whole to the effect that the general exchange of views should be eliminated in both Subcommittees. I would respectfully note that — not as Rapporteur but as representative of Brazil — I stated quite clearly that I had some misgivings about completely eliminating the general exchange of views in both Subcommittees. First, this question of the general exchange of views is not even on the agenda; there is an asterisk indicating that we can speak if we wish. I think that this flexibility makes it interesting for us. Some delegations may wish to speak on occasion, and it should not be forbidden to say a few words.

Secondly, and most important, as I said yesterday in the Working Group, the general exchange of views is sometimes very useful. I agree, incidentally, that sometimes general statements are repetitive and perhaps even a little tiresome; Brazil may have indulged in this practice, as may other delegations. But those statements have a merit: to signal the leanings of delegations on key issues. The example I gave in the Working Group yesterday was that Brazil and, I believe, all the sponsors of the paper on space benefits gained great benefit from the information given by the German delegation, speaking on behalf of France as well, last March, when it announced on day one of the session that those two delegations had an alternative paper on the question of space benefits. As may be remembered, the question of space benefits — item 5 on the agenda of the Legal Subcommittee — was scheduled for a meeting on the fifth or sixth day of our session. Thus, everybody gained a number of days just because of that opening statement. As it was made on day one, we were able to approach delegations and exchange views with them.

The sponsors of the alternative paper were some G-77 countries. Having examined it, we decided that we could not immediately absorb all the ideas in it. However, we thought that we should adopt a constructive attitude. This attitude was reflected in many interventions that we made from day one, and it helped to create a very constructive atmosphere throughout the Legal Subcommittee's work. Rather than creating antagonism *vis-à-vis* a paper with which we essentially disagreed — and with which we essentially still disagree — we decided, on the contrary, to see how much of it we could use. This helped us a good deal.

What I am saying is that Brazil is against simply eliminating the general exchange of views in both Subcommittees, as it has some advantages. We could recommend that it be reduced to a minimum or that delegations that do not have specific points to address — points that might be useful to the Subcommittee — refrain from speaking. I could go along with that. But this is a highly subjective field, and I do not think that we should, in a sense, militarize our work and dictate measures that might ultimately affect its quality.

Finally, I have an afterthought. Those of us who have been coming here for years know that general statements also serve to warm up meetings. If they are eliminated completely — if people come here and immediately start to address agenda item 3, 4 or 5 without any sort of general statement — we shall lose the opportunity to have a warm-up on the main subjects. Many delegations are still in a learning process. That is quite natural: nobody is born with knowledge. The move to Vienna may result in many delegations' becoming familiarized with our work.

Thus, general statements do have a very didactic role to play. I can often identify in many speeches influences from different regional groups that are taken up directly in other statements. This is normal, and it is very good for our work. That is the reason for my word of caution.

The purpose of my speaking on this point is to express disagreement with the perception of the representative of France that there is consensus on the sheer elimination of the general exchange of views.

Mr. Rey Córdoba (Colombia) (*interpretation from Spanish*): I shall not speak on the various items on the Legal Subcommittee's agenda, as we had an opportunity to express our opinions on each of these during the general exchange of views. For the sake of coherence in our own position, we do not want to repeat our positions on specific items.

However, I am moved to speak once more, during this debate, by an assertion that I heard at this morning's meeting, which rather concerned me. I believe that it is relevant to give some sort of legal explanation in reply to the assertion that it is up to the Committee to set the agenda for the Legal Subcommittee. I beg to differ radically, because it is quite clear that it was General Assembly resolution 49/34 that determined precisely what items the Subcommittee was to study and decide upon — clearly, on the basis of recommendations made by the Committee. In paragraph 8 of that resolution the General Assembly clearly instructed the Committee to ensure that the Chairman of the Legal Subcommittee, at its thirty-fourth session, carried out open-ended, unofficial consultations with all the members of the Subcommittee on its working methods and agenda, including the possibility of including new items in its agenda. In other words, the resolution expressly requests the Chairman of the Legal Subcommittee to examine the possibility of modifying the Subcommittee's working methods, procedures and agenda. It is worth recalling this because it is sometimes forgotten.

Neither should we forget that this is a mandate from the General Assembly. Traditionally, the General Assembly accepts the recommendations made by the Committee on the Peaceful Uses of Outer Space, but the Assembly is sovereign when it comes to decisions on certain matters, including the mandate given to the Committee or its Subcommittees. This mechanism, it seems to us, has not been used much in our work, and it might be useful at some stage to refresh our memory on all these procedures and how matters pertaining to outer space have been dealt with by the United Nations.

The truth is that often — perhaps because our work has become routine, or perhaps because in most cases the same people are members of the Technical and Scientific Subcommittee, the Legal Subcommittee and the Committee itself — the whole thing becomes a vicious circle: sometimes we wear the Subcommittee hat, and sometimes the Committee hat, but we always think the same way. Perhaps that is why there is no progress in our work.

So perhaps it would be refreshing if at some point the General Assembly, which includes all Member States and not just the members of the Committee on the Peaceful Uses of Outer Space, were to express some opinions on the matter. It would be useful to know what that international body expects of the outer space Committee's work.

We have some experience here. If things become too complicated, we have a precedent — a case which the General Assembly resolved very wisely, in my view. I fear that if we continue with these items which are so difficult to deal with, we may have to request our colleague who chairs the Working Group of the Fourth Committee to ask that Committee to take more time to analyse this omnibus resolution. At best, it might be necessary to thrash it out — to hear about other experiences, to get other people's ideas, to let a little light and fresh air in on the matter — in order to see if that will make this type of procedure clear to everyone.

Unfortunately, I get the impression that the work of the Committee on the Peaceful Uses of Outer Space and of the Subcommittees is stagnating to a great extent, and we must find a way out. The question of working methods and procedures and whether or not new items should be included in the agenda is becoming very complicated, and it is one on which other Members of the Organization might shed some new light at the appropriate time. We must not forget that we get our mandate from the General Assembly. Let us be quite clear about that.

I think that in this way we could make progress in our debate, with a clear legal overview of what we are doing. We are not saying that the Legal Subcommittee must do what we tell it to. That is simply not the case. The Subcommittee functions as an entity, but on the basis of a mandate from the General Assembly.

The Chairman: We have concluded our consideration of agenda item 6.

Spin-off benefits of space technology: review of current status (*continued*)

Mr. Campos (Portugal): Space-based sensors are an indispensable source of data about the Earth that is essential for many purposes, such as meteorology, cartography, agriculture and oceanography, in all countries, whether developed or developing. For many applications, space-based data by itself is not sufficient, and correlation with data from other sources is needed. Furthermore, there is now a vast pool of data, which is going to increase in the coming years, as larger satellites with more sophisticated sensors come into operation. The development of methods to use all this data effectively is lagging behind the accumulation of data itself. There is a need to encourage scientific and technical work leading towards reliable and validated methods of using satellite data.

One of the obstacles to this work is the high cost of high-resolution satellite data, which may have commercial value. We do not wish to undermine the commercial viability, partial or total, of satellite projects, since this is also a contribution to progress in space technology and applications. We are aware that making the cost of satellite data dependent on the identity of the buyer — for example, a university or a commercial company — or its declared use — research or services — may not be practical because of the possibility of transfer.

We would like to propose another solution: making available at no cost for scientific research purposes high-resolution data on areas of low commercial interest. In this way, scientific research would be made possible on methods of effective use of satellite data, thereby achieving greater spin-off from the investment made on Earth-observation satellites.

The Chairman: I now call on the representative of the Committee on Space Research (COSPAR).

Mr. Szegö (Committee on Space Research (COSPAR)): The Committee on Space Research (COSPAR) is most pleased to be able to address the United Nations Committee on the Peaceful Uses of Outer Space at its thirty-eighth session, because matters related to space research and applications are very much at the fore of public discussion in most of the countries engaged in these activities. In contrast to the situation prevailing in past decades, present deliberations seem, in a number of countries, to revolve not so much around questions of how to expand the space sector but, rather, how to preserve accumulated scientific and industrial potential. The theme of continuity — of defending the place of space programmes within the framework of national economic efforts and international cooperation — is often the most visible subject of discourse, both nationally and internationally.

What are the salient features when one looks at the panoply of international efforts to continue the exploration of space? The prevailing impression is that in all countries the budget to carry out space exploration is shrinking. It is more and more difficult to start new space missions, to maintain the operation of successful current missions, to work out new technologies and to keep knowledgeable space-research staff.

Big space missions are under very serious pressure and scrutiny. This impression, among others, arises from the efforts to reorganize the United States National Aeronautics and Space Administration (NASA) and to achieve significant savings in the budget of the European Space Agency (ESA). In particular, the high cost of the space station has prompted the initiative not only to internationalize its realization, but also to cut down significantly on the ambitiousness of its final design. In addition, intensive discussions have begun on the best ways of distributing the dwindling funds between competing space-research projects.

The natural answer to the queries and doubts of the community of scientists and engineers involved in space research is to look for novel ways to achieve excellence in research at a moderate cost. The uncertainties surrounding very big projects have encouraged a strong movement towards the development of small space missions. These undertakings are conceived and proposed not only for the exploration of near-Earth space but also to continue the investigation of the outer solar system.

The move away from a few very large and expensive space endeavours to a good number of small projects — still expected to provide first-rate scientific results, with the total combined cost representing only a fraction of the previously envisaged expenditures — was made possible by the rapid growth of technological capabilities. This new and unconventional approach permits advances at much lower cost and also allows the flexibility necessary to meet shifts in financial policies. This last aspect may be of particular value to scientific groups that are endowed with less money, especially to those from nations which have decided only recently to take part in international space programmes and whose scientific priorities preclude tying up large sums of money in projects with uncertain prospects and ill-defined time scales.

It would, however, be unfair to create the impression that because of various difficulties space research is in a winding-down phase. Despite the aforementioned problems, international and national space agencies are engaged in work on a number of exciting projects to be realized in the near and the more distant future. Even such an ambitious undertaking as the return of man to the moon is at present a topic of discussion among the agencies. One of the reasons for such discussion is the now well-rooted conviction, based on the decades-long experience of many nations, that space activities are driving the development of industrial know-how and industrial infrastructure. COSPAR notes with satisfaction that application programmes, such as remote

sensing, weather forecasting and telecommunication, have become an inseparable part of everyday life.

This last aspect can be especially important for countries which have embarked only recently on fast-development programmes of space-oriented activities. It is therefore with great hope and expectations that many groups of scientists involved in space undertakings observe the recent trends among several nations of the South, as well as of South-East Asia and the Pacific rim, to promote vigorously space-research and application programmes. The COSPAR community has followed with keen interest discussions at the Asia-Pacific Workshops on Multilateral Cooperation in Space Technology and Applications and very much welcomes the decision taken recently to prepare a comprehensive document laying the foundation of a regional space mechanism.

Promotion, through international cooperation, of space research and related applications constitutes the very core of COSPAR policies. Indeed, one of the important aims of COSPAR Scientific Assemblies and Colloquiums is to offer proper discussion forums for scientists of all nations and thus to help find adequate answers to questions pertaining to international cooperation in space research. As illustrated by the programme of COSPAR's last Scientific Assembly, held in July 1994 at Hamburg, Germany — an event attended by more than 1,500 participants from all over the world — the COSPAR scientific and engineering community is participating fully in the discussion of the difficulties, challenges and opportunities that have been identified in the realm of space research. We hope that our deliberations may contribute to a better definition of objectives in the field of space research and to applying findings more usefully to present-day economic realities. We note in this respect the growing importance of providing space weather forecasting for application-oriented satellites. We also hope that our system of Colloquiums — smaller meetings organized often on a regional basis — can be instrumental in establishing proper scientific criteria and aims for research and application in areas important for any given group of nations.

In this connection, it may be of interest to participants in the present COPUOS session that, besides many international scientific unions, the COSPAR family includes 38 member nations, with several other countries currently discussing the possibility of joining. Recently our organization adopted a new charter and bylaws expressing the realities of post-cold-war developments. Under this new constitution, all members of COSPAR have an equal opportunity to hold any office within the organization. Associate status, a new category of affiliation created less than three years ago for individual scientists, already numbers approximately 4,000 adherents. I should like to stress in particular that the individual scientists and engineers who constitute the body of our Associates come from 88 different countries, and thus may be considered to be a truly representative group for space research activities world wide. Associates are organized in seven Scientific Commissions encompassing a very wide spectrum of fields. COSPAR remains ready, as in the past, to put its pool of knowledge and expertise at the disposal of the international community.

Before I close, let me say how much COSPAR appreciates the opportunity, in close cooperation with the International Astronautical Federation (IAF), to present to the international community the views of relevant scientific, engineering and industrial groups on aspects of space science and technology that are directly related to the practical needs of countries. I am referring to COSPAR's participation in the long series of symposiums organized along with the IAF, which are held on the occasion of the annual session of the Scientific and Technical Subcommittee of COPUOS. We feel that in order to foster the best use of existing technologies no effort should be spared in encouraging better understanding between space scientists, technical experts and representatives of the lay public; the well-being of the latter should be the ultimate goal of activities carried out in the name of the peaceful use of outer space.

I hope the deliberations of the Committee on the Peaceful Uses of Outer Space at this session will be most fruitful.

The Chairman: The Committee has concluded its consideration of agenda item 8 — although I note that the delegation of India intends at a later stage to make a technical presentation on this subject.

Other matters

The Chairman: I wish to draw the Committee's attention to outstanding requests from two non-governmental organizations, the International Academy of Astronautics and the International Astronomical Union, for observer status with the Committee. The relevant correspondence and statutes relating to these two organizations were circulated at the thirty-second session of the Scientific and Technical Subcommittee for the information of States members of the Committee. Before asking whether the Committee wishes to grant observer

status to these two non-governmental organizations, I shall call on the representative of the Czech Republic, who wishes to speak on this matter.

Mr. Perek (Czech Republic): We support the application of the International Astronomical Union (IAU) for observer status with this Committee. There are several reasons for our support. The agenda of the Scientific and Technical Subcommittee includes items entitled "Matters relating to planetary exploration" and "Matters relating to astronomy". This fact alone would be sufficient reason to grant the IAU observer status. The IAU is a non-governmental organization of professional astronomers. In the course of the 76 years of its existence it has become the forum where most international cooperation in astronomy is carried out. The Union has 7,800 individual members — more than the number of pieces of space debris — residing in over 60 countries. It is worthwhile noting that the IAU is responsible for assigning names to surface features on the planets and designations to comets and asteroids.

At the last session of the Scientific and Technical Subcommittee we had the privilege of hearing a technical presentation by Professor Derek McNally, former General Secretary of the IAU, on "Adverse environmental impacts on astronomy", which reported on a Conference, sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Council of Scientific Unions, the IAU and the Committee on Space Research (COSPAR), dealing with the impact of civilization on astronomy, with electromagnetic pollution at optical and radio wavelengths and with effects of space debris — the last directly related to another item on the Subcommittee's agenda.

The development of space activities is closely linked with the results of observations and theoretical investigations that had been conducted in astronomy for a long time before the first artificial satellite could be launched. At that time, astronomical methods for determining orbits had already been developed and we had basic knowledge of large and small bodies of the solar system. It was also well understood what could be discovered from the ground and what had to wait for observations from space. Without the astronomy of the nineteenth century there would have been no space activities of the twentieth. In the future, astronomical research will always have to be a few steps ahead. This may concern, for instance, knowledge of small asteroids crossing the orbit of the Earth.

This Committee can help astronomy achieve its difficult task by helping to protect and maintain decent observing conditions for ground-based observatories as well as by promoting space research. I trust that the observer status of the IAU will result in fruitful cooperation.

We also support the application of the International Academy of Astronautics (IAA) for observer status. The IAA is a non-governmental organization that awards membership to individuals for their contributions to astronautics. The IAA is well known in this Committee, not only from the blue rosettes with the Big Dipper in the buttonholes of several participants, but also, and mainly, from its contribution to our work. One of the outstanding recent examples was the IAA position paper on orbital debris, which contains a brief but authoritative overview of scientific and technical aspects of that complex phenomenon. Formal observer status would confirm the informal links that have existed between the IAA and this Committee for a long time.

The Chairman: May I take it that the Committee wishes to grant permanent observer status with the Committee to the International Astronomical Union and the International Academy of Astronautics? This is in accordance with the agreement of the Committee at its thirty-third session concerning observer status for non-governmental organizations, as outlined in paragraph 137 of document A/45/20, which stipulates that these organizations will also apply for consultative status with the Economic and Social Council.

It was so decided.

The Chairman: I shall now call on the remaining speakers on agenda item 9.

Mr. Flügger (Germany): Allow me at this time to take the opportunity to remind colleagues of the German candidate for the chairmanship of the Scientific and Technical Subcommittee, Professor Dietrich Rex. We think he is an excellent candidate not only because he possesses expertise in a vast range of space matters but also because of his 15 years of experience as a representative in the Committee on the Peaceful Uses of Outer Space and its Scientific and Technical Subcommittee. From informal talks we have had with a large number of delegations, we understand that a consensus on the German candidate has emerged. We are looking forward to the elections to be held at the next session of the Scientific and Technical Subcommittee.

Mr. Campos (Portugal): Mr. Chairman, in your closing remarks at yesterday's meeting you urged new members of the Committee not to pass severe judgements without the benefit of further experience in the Committee's work and a more thorough knowledge of its past achievements. We note that modern society is growing ever less likely to be content with successes of the past. We are asked more often to justify the resources we consume in current activities in terms of their likely future benefits.

The new members of the Committee do not have the benefit of past direct experience here, but they may have had such experience in other relevant forums. The new members may play a useful role in the renewal of the Committee since their views are not shaded by accommodation to past practices and habits. They represent the closest to an independent outside view of the workings of the Committee, which we are trying to improve.

We have made significant progress on this subject. Let me single out the decision to move from verbatim records to transcriptions. The latter are perfectly adequate, and are perhaps even preferable to the former, and will represent a savings of about $250,000. Such economies can affect the contributions of Member States to the United Nations or allow the United Nations to ease its financial constraints elsewhere. Concerning the Legal Subcommittee, we fully agree that it is important to allow for the reintroduction of summary records in case of the preparation of a new treaty or a similar activity. We should emphasize to the General Assembly that our voluntary adoption of transcriptions is an important saving, the acceptance of which implies that the exception I have just mentioned — preparation of a treaty by the Legal Subcommittee — would be viewed favourably in the future. It has been decided not to extend the use of transcriptions to the Legal Subcommittee immediately, but instead to seek the Subcommittee's opinion. We note that the Committee has the final word, and we hope that the Legal Subcommittee will follow our example in achieving significant economies.

The main thrust of my statement is another matter of the greatest importance, on which we have unfortunately not achieved much progress: the duration of our sessions. We would like to propose another approach to this matter, which would not restrict agenda items or put any new limit on the opportunities for member States to make statements, but which could still reduce the number of days spent on our proceedings. A normal working day is universally considered to be six to eight working hours. However, if we take the total number of working hours of our Committee and its Subcommittees and divide by six to eight hours, we arrive at a figure of less than two or three weeks. Meetings are scheduled for six hours per day, but this may not be achieved if members do not wish to speak on the items on the agenda for a given day. We should be able to proceed to the next agenda item, thereby achieving, consistently, a six- to eight-hour working day through this change in our working rules.

We note that the number of working days is the most important measure of the resources consumed by the Committee and its Subcommittees, since this relates to at least three aspects: the cost to the United Nations, which is determined by the number of days its facilities and services are used; the cost to member States, which is determined by the number of days allocated by representatives and experts; and the duration of our session, which determines how long those of us to have to travel to these sessions spend away from their home and their other work.

A reduction in the number of days taken up by our proceedings would ease scheduling of activities in Vienna and would limit the increase in the pile of work that accumulates in our home countries during our absence, awaiting our return. The availability of skilled and knowledgeable individuals is perhaps the most scarce of resources. By making our sessions last fewer days we may be able to enlist broader participation and increase the quality of our work.

In conclusion, we reiterate our proposal that we review our methods of work as necessary, to achieve consistently a six- to eight-hour working day. This measure would not limit the scope or depth of our work, but would provide greater efficiency by achieving the same output with a lesser consumption of resources.

Mr. de Souza Marcos de la Penha (Brazil): The Brazilian delegation would like to say a few words regarding the Brazilian space programme, under the agenda item "Other matters".

The considerable resources invested by Brazil in the space sector over the last 30 years has allowed my country to develop a cadre of competent specialists, to consolidate national research and development institutes, to establish important infrastructure facilities, and to begin the development of the Brazilian space industry.

These investments also enhanced the dissemination of techniques for satellite communications, navigation, remote sensing, environment monitoring and meteorology, which can play an important role in the solution of many national problems.

The year 1994 witnessed major breakthroughs, which have rewarded this long-standing commitment to scientific and technological development in the space field. In these areas, I should like to highlight the following achievements and the major projects to be completed in the near future, in the context of the Brazilian space programme.

First, there was the launch, in February 1993, of the first satellite developed in Brazil — the data-collecting satellite called SCD-1 — into an orbit at an altitude of 760 kilometres. Assuming the absence of unforeseen exogenous factors, the SCD-1 is expected to remain operational through March 1996, making a total useful life of three years, against the one year previously assumed.

Then there will be the launch of a second data-collecting satellite — the SCD-2 — in the first trimester of 1996, by a foreign satellite-launch vehicle to be selected through international bidding scheduled to take place later this year.

Thirdly, there is the completion of the Brazilian satellite-launch vehicle project — the VLS-1 — which was recently tested most successfully. The VLS-1 is scheduled to be launched during the second semester of 1996, carrying an SCD-2, from the Alcantara Launch Centre.

Fourthly, we have the establishment of the Alcantara Launch Centre. Located 2 degrees south of the equator, on the South Atlantic edge of the Amazon region, the Centre is uniquely positioned to bring about savings of over 30 per cent for launches into equatorial orbits. Its operational capabilities were thoroughly tested in 1994, with the launching of more than 30 sounding rockets by the United States National Aeronautics and Space Administration (NASA) and the Brazilian National Institute of Space Research — the so-called Guará Campaign. The Centre will be available, on a commercial basis, to both domestic and foreign space institutions by late 1996.

Fifthly, there is the implementation of the Brazil-China Earth Resources Satellite Project — the CBERS project. This international joint venture in the space sector — the first-ever between two developing countries — pools the financial and skilled-manpower resources of the two States to establish a complete remote sensing system that will be competitive on the international market in the late 1990s.

In carrying on its space activities, Brazil can rely upon a solid infrastructure provided by the Satellite Integration and Test Laboratory, which recently tested the Argentine satellite, and the Satellite Tracking Control Centre, both of which come under the National Institute for Space Research.

In the administrative and planning fields, the year 1994 also brought about an important breakthrough — namely, the establishment of the Brazilian Space Agency, in February 1994, as a civilian authority within the purview of the Executive Office of the President of Brazil.

The Brazilian Space Agency is called upon to foster cooperation between industry and academia, as well as to coordinate the major elements of Brazil's space activities, which are currently carried out by the Ministry of Science and Technology, through the National Institute for Space Research, and the Ministry of Aeronautics, through the Aerospace Technical Centre.

A first assignment of the Brazilian Space Agency was the updating of the national policy on the development of space activities, approved by the President of Brazil last December. The new national policy includes a chronogram of activities for the next 10 years, in keeping with the well-tried model of development through long-term commitments. International cooperation continues to enjoy priority status in the new national policy.

In this vein, I should like to single out three examples.

The first is a cooperative regional project managed by the Ministry of Science and Technology, which will share the data-collection services provided by SAD-1, and in future by SAD-2, with South American countries, on a concessional basis.

Secondly, there is the selection of Brazil, by its hemispheric partners, to host the directorate of the recently created Interamerican Institute for Global Change Research at the headquarters of the Brazilian National Institute for Space Research.

Thirdly, there is the extensive refurbishing work on the facilities assigned for the United Nations Regional

Centre, to be located at the National Institute for Space Research, in the vicinity of the Aerospace Technical Center, in São José dos Campos, São Paulo.

The Brazilian delegation believes that this information will be of interest to the Committee.

The Chairman: It appears that there are no further speakers on agenda item 9.

Immediately after the adjournment of this meeting there will be further consultations between interested delegations on the question of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

Mr. Zlauvinen (Argentina) (*interpretation from Spanish*): I seek clarification, Mr. Chairman.

You have just announced that following this meeting there will be informal consultations on the subject of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space. I should like to know whether in the course of those consultations we shall have interpreters. My delegation's understanding is that the interpreters will be available until the end of the afternoon meeting.

The Scientific and Technical Subcommittee had simultaneous interpretation for its informal consultations on this item, but unfortunately our consultations this morning had to be held without interpretation — as a result, I believe, of a last-minute coordination problem.

The Chairman: I cannot answer this question immediately. We shall have to check with the secretariat.

Mr. Webb (Canada): I have another question, just for clarification: will the topic of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space come up formally under agenda item 9, "Other matters"?

The Chairman: Yes. I announced that yesterday morning.

I am waiting for information from the secretariat regarding interpretation facilities, which I will give the Committee in short order.

Mr. Rey Córdoba (Colombia) (*interpretation from Spanish*): According to what I heard the representative of Argentina say, this morning there were informal consultations on this subject. I wish to state that my delegation was not aware of those informal consultations, and we would have liked to participate in them. I would like to ask whoever is coordinating those informal consultations please to advise all delegations so that we can participate. I was as surprised as anyone to hear this news just now from the representative of Argentina.

The Chairman: I would like to draw the attention of my dear friend Alfredo Rey Córdoba from Colombia to the fact that I announced this morning that there would be informal consultations between interested delegations, coordinated by the Rapporteur and by Mr. Tremayne-Smith. The representative of Colombia may not have been in the room at the time. I apologize, but I announced it here, publicly, in this morning's meeting. I reiterate that there will be a continuation of these informal consultations, coordinated by Mr. Edgard Telles Ribeiro, together with our colleague from the United Kingdom.

At this stage I am just waiting for some technical information. Perhaps we can comply with the request of our colleague from Argentina, and possibly others, that we have interpretation facilities.

Mr. González (Chile) (*interpretation from Spanish*): As my delegation sees it, this meeting that we are in right now was budgeted to go on until 6 p.m. If we finish early, then we can assume that we will still have interpretation facilities for the time remaining.

It seems to us that we will be at a genuine disadvantage if we have to carry on without interpretation. If that were the case, I would dare to suggest that we hold the meeting in Spanish, which is one of the official languages of the United Nations. Why not?

The Chairman (*interpretation from Spanish*): I have no objection whatsoever to speaking Spanish, which is an estimable language.

At this time I am simply waiting for some technical information. I would ask the Committee to have a little patience. I shall inform members as soon as I receive that information.

(*spoke in English*)

I have the answer and can now give the Committee the information requested. The intention was to hold the

consultations in a smaller room, in order to maintain a certain informality, but as no other room is available, in accordance with the request they will be held here, immediately after the adjournment of this meeting, with full interpretation facilities and coordinated by the Rapporteur, with the assistance of the representative of the United Kingdom.

The meeting rose at 4.45 p.m.

United Nations

A/AC.105/PV.416

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

416th Meeting
Wednesday, 21 June 1995, 10 a.m.
Vienna

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.15 a.m.

Organization of work

The Chairman: This morning we shall continue our consideration of agenda item 9, "Other matters". When the list of speakers on this item is exhausted, we will immediately have a technical presentation on spin-off benefits of space technology.

We will then move immediately into informal consultations between interested delegations on matters related to a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), to be coordinated by Mr. Tremayne-Smith of the United Kingdom.

At an appropriate time the Rapporteur will also conduct informal consultations between interested delegations on the draft report concerning the working methods and agenda of the Committee and its subsidiary bodies.

This afternoon we will conclude our consideration of agenda item 9, "Other matters", and begin consideration, if possible, of the first parts of the draft report. Once we conclude consideration of those parts of the report that are available, we will conduct, as necessary, as is our usual practice, informal consultations on any outstanding matters.

For the information of representatives, it is my hope that we will conclude this session of the Committee tomorrow.

Other matters (*continued*)

Mr. Senkevitch (Russian Federation) (*interpretation from Russian*): If I may, I shall speak on agenda items 8 and 9 in one intervention.

The delegation of the Russian Federation would like to refer to General Assembly resolution 48/39, and in particular to its paragraph 38, concerning the spin-off benefits of space technology and types of activity for systematic inclusion on the agenda, and also to draw the Committee's attention to an item related to this point which the General Assembly recommended for special attention: "Space applications for disaster prevention, warning, mitigation and relief".

Last year, the Russian delegation proposed that each year there should be not only a review of the current status of achievements in space technology and the wholesale transfer of its technologies to other areas of practical application, but also complex long-range forecasts of space activity. This would make it possible promptly to identify potential new ways of developing space activities, expand the range of direct and spin-off benefits and plan farther ahead the chain of events in the whole cycle of planning, construction, experimentation and implementation of new generations of space technology. Such a systematic and scientific approach to the whole problem and the initial technical level of equipment, elemental base, materials and technology, represents the current trend in developments and the forecasting of the growth of defining features; the design of systems and complex new generations for new tasks; the evaluation of the expected effects of and expenditures

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on programmes; and, lastly, the organization of international activities. All this would, in our view, be very useful in the consideration of this subject.

It would also be useful to interpret this broadly so as to reflect the major contributions of all States which, in one way or another, participate in space activities — of which there are already more than 130, including 20 that build their own spacecraft — in direct and spin-off applications of space science and techniques, including technology used in their creation. In this respect, the agenda item on spin-off benefits could have been called "Direct and spin-off benefits of space science and techniques and their technologies: a systematic analysis of current status and forecasts for development".

Allow me, using Russia as an example, to offer a brief overview on this matter, beginning with the transfer and use of scientific and technological achievements and space technology in other fields. This is already a fairly reliable way for a country to economize, allowing it to achieve tangible, practical results while ensuring that the costs of various types of work are covered and that efforts are commercially profitable.

It is true, of course, that here as in other countries the work does not necessarily pay for itself, but in the future it may, depending on the scale of future space activity and the acceleration of scientific and technological development. The main catalysts, as we know, are space exploration and nuclear energy, because they have an impact on the development of machine construction, radio-electronics, land, water and air transport, robotics, computer systems, energy production, water purification, cooling technology, special materials, chemicals, communications and management systems, information media and many other areas.

The use of space-related scientific, technical and technological achievements is developing in Russia in the following ways. The first is the direct application of space facilities to the economic benefit of the country and to defence purposes in order to solve economic, scientific and commercial problems. Specialized space facilities are also applied or modified to become dual-use facilities. We have already engaged in more than a hundred conversion projects, of which a third require only a partial reassignment of functions or partial modifications to machinery.

The second area is the transfer of the latest technologies to other branches and fields of manufacturing and application. Eighty per cent of space technology is of a general nature and can be applied to the creation of non-space products. For example, chemical energy sources with yields ranging from 40 to 120 watt-hours per kilogram could be applied to transport and many aspects of non-industrial economic activity as soon as the next five to 10 years. It will also be possible to use solar batteries, yielding 250 to 300 watts per square metre, for lighting and heating purposes.

With the construction of observation equipment with diameters of 1.5 to 3 metres, using real-time images and signals, space locators, spaceborne antennas with high-resolution capabilities; and highly sensitive photographic apparatus in both the visible and the infrared spectra it will become possible to improve agriculture, by monitoring maturing crops and forecasting harvest yields, and to solve problems relating to forest-fire prevention. This is important in a country as large as Russia, where there can be as many as 200,000 forest fires a year. It should also help to perfect weather forecasting, implement environmental monitoring, identify areas prone to natural disasters and many other activities.

New materials and substances under development for space-rocket technology — including highly durable ceramics, corrosion-resistant steels and other alloys, non-flammable fabrics, sealants, self-lubricating anti-friction materials and so forth — are being used effectively in transport, metallurgy, chemical applications, aviation, textiles and other areas. The list of new applied space technologies is a long one, arising from conversion projects and work being done on new technologies at the Ministry of Defence Industries, the Ministry of Atomic Energy, the Russian Space Agency, the Ministry of Defence and other agencies. Thus, the space corporation Energiya and the Russian Space Agency alone have access to some 400 different technologies based on work carried out on the Mir space station and in the Energiya-Buran system.

For the sake of brevity, I will go into greater detail on current activities, but I should note that a third potential area for the effective application of space technology is the international market in space services. Space technology is a tradable commodity, and our country is formulating the necessary scientific and technological policies in that area.

In order properly to implement an up-to-date scientific and technical strategy regarding direct and related benefits of space activities we need a

comprehensive evaluation to forecast prospects on the basis of which we can determine the ultimate goals of current activities. We need to evaluate in advance the possible limits of the development of space science and to understand the positive and negative interaction of its components. We must devise promising space systems and define areas within them that can help to foster international cooperation and the fulfilment of international programmes under United Nations auspices.

A year ago we told the Committee of some of Russia's projected activities in space for the next 20 to 30 years. A number of delegations expressed interest in this subject. We hope the work will be carried out in a systematic way. It is our intention to continue systematic discussion of this subject in this Committee. I want to report that we have set up a system of contacts for the prevention of environmental disasters; in conjunction with COSPAR-SARSAT, we hope to be able to provide timely assistance making use of our spacecraft.

The benefits of space technology will undoubtedly continue to grow. We need further work to advance this subject. We hope that the benefits will be made available to developing countries. Much remains to be done to manage the transfer of data to developing countries, particular with respect to data bases, the settlement of legal problems and a number of other issues. We continue to hope that the Committee will make major progress in its work on this matter.

Technical presentation

A technical presentation was given by the delegation of India.

The meeting rose at 10.40 a.m.

United Nations A/AC.105/PV.417

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

417th Meeting
Wednesday, 21 June 1995, 3 p.m.
Vienna

Chairman: Dr. P. Hohenfellner ..... (Austria)

The meeting was called to order at 3.20 p.m.

Organization of work

The Chairman: This afternoon we shall continue and conclude our consideration of agenda item 9, "Other matters", and then begin our consideration of the Committee's draft report.

I am informed that there has been significant progress in the informal consultations on a Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) and working methods, and therefore when the list of speakers on item 9 is exhausted we shall move to an informal meeting to begin consideration of the Committee's draft report. Once we have completed consideration of the available parts of the draft report, we shall again have informal consultations for interested delegations on language for our report on a third UNISPACE.

Other matters

Mr. Behliy (Ukraine) (*interpretation from Russian*): Over the year that has elapsed since the last sessions of the Committee on the Peaceful Uses of Outer Space and its Subcommittees space science and technology have seen progress towards implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE II) and the subsequent resolutions of the United Nations General Assembly. Here, much of the credit is certainly due to all elements of the Committee.

I should like to mention in particular the very conscientious work done by the United Nations Secretariat, your contribution, Mr. Chairman, and the guidance given to the Subcommittees by Mr. Jasentuliyana and his staff.

Since it took its very first steps on the international stage as an independent State, Ukraine has been guided completely by the recommendations of UNISPACE II in its efforts to use outer space exclusively for peaceful purposes and to increase international cooperation on space matters.

In evaluating the work of the Scientific and Technical Subcommittee, I should like to note the very solid groundwork done on the agenda of the Subcommittee's thirty-second session, bearing in mind, of course, the importance of the problems recommended by the General Assembly for consideration in the work of the Committee. Here I refer to General Assembly resolution 49/34 of 9 December 1994, without in any way diminishing the importance of the problems addressed at the thirty-second session of the Subcommittee.

I should like to point out that there is now an objective need to add to the list of subjects for consideration at the thirty-third session of the Scientific and Technical Subcommittee by including on the Subcommittee's agenda an item concerning the expansion of international cooperation on the use of space technology to forecast, forestall and provide assistance in situations of natural catastrophe and environmental disaster.

These problems are extremely topical, and they are of importance not just to the countries of Europe, the United States and South-East Asia, where space technology is

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already being used, in one way or another, to combat natural disasters. The vital interests of the peoples of other regions of the Earth — first and foremost, the developing countries in Africa, Asia and Latin America — require more active application of space technologies to prevent, forestall and overcome the consequences of emergency situations, which have assumed an ever more destructive character in recent years.

Our country has certain technical experience in the use of space technology in emergencies, and it is ready to engage in the broadest possible cooperation in such activity within the United Nations system, so important to all regions of the Earth.

With regard to the recommendations of UNISPACE II on the establishment, development and strengthening of mechanisms for regional cooperation through the United Nations system, Ukraine is ready to propose that wide international use be made of a regional facility — the Outer Space Communications Centre at Yevpatoriya in the Black Sea region of southern Ukraine. Apart from guiding spacecraft in outer space, the equipment at the Yevpatoriya Centre is available for conducting various types of modern space research — interferomagnetic measurements, radar tracking of solar system planets, radio-astronomic research into non-Earth sources of radiomagnetic radiation and the study of other consequences and dimensions of outer space elements and celestial bodies.

In the light of what I have said, the Ukrainian delegation has the authority of its Government to suggest the establishment, on the basis of the Yevpatoriya Centre, of a new international space research centre which could be included in the United Nations Programme on Space Applications. The creation of such a centre could be a further step towards strengthening international cooperation on the use of outer space for peaceful purposes.

Mr. Galazka (Poland): My country very strongly supports the idea that has just been put forward by the representative of Ukraine.

The Chairman: The Committee notes the comment of the representative of Poland.

As it appears that there are no further speakers, the Committee has concluded its consideration of agenda item 9.

The meeting rose at 3.30 p.m.

United Nations A/AC.105/PV.418

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

418th Meeting
Thursday, 22 June 1995, 12.40 p.m.
Vienna

Chairman: Dr. P. Hohenfellner ..... (Austria)

The meeting was called to order at 12.40 p.m.

Report of the Committee to the General Assembly

The Chairman: Before we proceed I would like, on behalf of the Committee, to thank especially the Rapporteur, Mr. Edgard Telles Ribeiro of Brazil. My special thanks go also to Mr. Tremayne-Smith of the United Kingdom, who so efficiently coordinated the consultations on a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE).

Now that we have gone through the draft report paragraph by paragraph, in informal session, I would like to proceed to the formal adoption of the report. As is our custom, we will adopt it part by part.

We first take up document A/AC.105/L.208. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.1. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208/Add.1 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.2. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208/Add.2 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.3. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208/Add.3 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.4. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208/Add.4 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.5.

Ms. Kato (Japan): Japan will join the consensus for the adoption of document A/AC.105/L.208/Add.5, including paragraph 18. However, in connection with that paragraph, my delegation would like the Committee to review the need for unedited transcripts at the Committee's session in 1997. The Japanese delegation will be grateful to have this statement included in the record of this meeting.

Mr. Hodgkins (United States of America): I wish to speak only in order to support the proposal made by our colleague from the delegation of Japan. I think it would be a prudent step forward for the Committee to review, after a year, the usefulness of and the need for the unedited transcripts, in the light of the fact that we have a consensus report each year for the Committee.

The Chairman: If there are no further comments, I shall take it that the Committee decides to adopt document A/AC.105/L.208/Add.5.

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V.95-58098

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Document A/AC.105/L.208/Add.5 was adopted.

The Chairman: We shall now take up document A/AC.105/L.208/Add.6. If I hear no objection, I shall take it that the Committee decides to adopt it.

Document A/AC.105/L.208/Add.6 was adopted.

The Chairman: The Committee will now take up the draft report, as a whole, of the thirty-eighth session of the Committee on the Peaceful Uses of Outer Space. Is the Committee of the opinion that we should adopt the report, as a whole?

The draft report, as a whole, was adopted.

The Chairman: I would like at this time to thank the Committee for its cooperation.

Mr. de Yturriaga (Spain) (*interpretation from Spanish*): With regard to the report we have just adopted, my delegation wishes to comment on a couple of points that, in our view, have not been satisfactorily addressed or resolved so far by the Committee. I am referring to the working methods, agenda and programme of work of the Legal Subcommittee.

Under the title "Methods of work", we have mixed together and dealt with various distinct issues, such as the agenda of the Subcommittees, the duration and dates of Committee and Subcommittee sessions, the composition of the Committee, the chairmanship of the Committee and the Subcommittees, and the actual methods of work of the Committee and its Subcommittees. This has led to some confusion and lack of rigour in our discussions, and therefore they have not been very fruitful. We believe that these issues should be dealt with separately and resolved on the basis of their own merits — bearing in mind, of course, the relationships between them.

For example, on the question of the composition of the Committee and the chairmanships, paragraph 1 of document A/AC.105/L.208/Add.3 says that the Committee established a Working Group to examine the Committee's working methods, taking into particular account the recommendations of the Legal Subcommittee as reflected in paragraphs 47 to 56 of its report.

In paragraph 56 the Legal Subcommittee does indeed address the question of its composition and chairmanship and expresses the view that these matters are not within the Subcommittee's competence and should be dealt with by the Committee. My delegation regrets that, despite this, the question has not been addressed. The Chairman has told us that no delegation asked that it be considered. He felt that it would be considered as part of the Committee's normal functions, that no request was needed to deal with a matter that had in a sense been imposed on us, through a recommendation in the report of the Legal Subcommittee that had been accepted by the Committee.

Nevertheless, I believe that this important question should be addressed at the Committee's next session since, as we say in our report, the Working Group of the Whole is to be reestablished to deal with the methods of work. My delegation believes that objective criteria should be established to determine the chairmanships not only of the Committee but also of the Subcommittees, and that there is no divine law dictating that once a person has been elected chairman, that person — no matter how admirable — should hold the post forever. I think it would be much healthier to change this situation.

I am not speaking against you, Mr. Chairman, or against the Chairmen of the Subcommittees — quite the contrary: I want to state publicly that you have been doing excellent work. But my delegation believes that it would be more appropriate to have fixed terms of office for the Chairmen of the Committee and its Subcommittees. If, after this term of office had expired, the Committee or a Subcommittee wanted to re-elect a person who had done extraordinary work, it could do so, but this kind of almost monarchical succession should not be the rule in this Committee.

My second point concerns the agenda and the programme of work of the Legal Subcommittee. Paragraph 28 of document A/AC.105/L.208/Add.5, which we have just adopted, states that the Legal Subcommittee's session should be held from 18 March to 4 April — three weeks of meetings. If we adhere to the agenda for that session that we have just adopted and that appears in paragraph 24, we see that part (a) is practically frozen. I do not think that much will happen, because a large group of States is of the view that the present principles are acceptable and do not need to be revised. In part (b) there are two items that are almost part of divine law, items the Committee has been discussing ever since it was set up — namely, the geostationary orbit, and the definition and delimitation of outer space.

With regard to the geostationary orbit, we shall be considering the document that the delegation of Colombia has said it will submit, and once again we shall repeat the arguments that we have been using for these past 20 years. The same is true of the item on the definition and delimitation of outer space. The matter of the questionnaires has a bit more substance and we could perhaps reach some kind of agreement, but it does not really have enough substance to merit discussion.

The only remaining item, then, is the one in part (c): the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries. This is a very theoretical subject. Several countries have put forward a proposal in this regard, which we could continue to discuss, but my delegation seriously believes that three weeks would be enough — indeed more than enough — for this agenda. As I have said before, this is such a small menu for a meal that is going to last for so many days.

It is true that a following paragraph of document A/AC.105/L.208/Add.5 says that the three weeks could be reduced to two. But our system of agreeing on these items should be a little more flexible. It is not a question of establishing fixed, immutable periods for discussion, depending on the item being addressed. It is not the organ that creates the function, but the function that creates the organ. That is to say, if we have important, substantive items to deal with, we shall have to allocate two, three or even four weeks to them. But if, for whatever reason, we have no items to deal with, it makes no sense to adhere to a much-too-long timetable, stretching things out, using "dead time" to justify two- or three-week debates, at great cost to the Organization, when this time could be used for more profitable activities.

My delegation is one of those which believe that the somewhat skeletal agenda still before the Legal Subcommittee should be fleshed out. But we have not been able to reach an agreement on this. It is another item that my delegation would like to see addressed when we discuss the methods of work, whenever that will be. Some delegations support the inclusion in the agenda of new legal items that are important and interesting; but there has been no consensus on this. This is another subject that my delegation believes we should reexamine.

There has been agreement in the Committee so far that we should act by consensus. This has had advantages, but also many disadvantages. We believe that, in a spirit of self-criticism, we should reconsider the situation to determine whether we wish to maintain the principle of consensus at any cost. When we are dealing with substantive issues, when we are adopting a draft convention, recommendations, or principles that establish legal standards or guidelines, my delegation feels it would be a good idea to maintain the system of consensus; that would be very positive. But I believe that if the Committee is to function properly we shall have to abandon this practice of requiring unanimity, whereby one delegation that stubbornly sticks to a position can block everything. This is not a good formula for action. I believe, therefore, that we shall have to determine how far this principle of consensus can be taken. I think we can agree that it should be applied in respect of substantive decisions but should be abandoned in respect of strictly procedural, formal decisions, which, as is done by all other bodies, should be adopted by a majority vote. The majority required — two thirds, qualified, or simple — should depend on the importance of the item being dealt with.

Those were the comments my delegation wished to make. We trust that at the Committee's next session they will be considered in greater detail, for the benefit of all.

Mr. Flügger (Germany): The German delegation was pleased to join the consensus on the report we have adopted.

Allow me to take this opportunity to thank all the delegations that have expressed their support for the German candidacy for the chairmanship of the Scientific and Technical Subcommittee. In that respect, we also pay tribute to the efforts of the Committee Chairman. We hope that the Scientific and Technical Subcommittee will have no difficulty in accepting, by consensus, Professor Rex as its new Chairman at its next session.

Mr. Schepisi (Italy): I listened with great attention to what the Ambassador of Spain said, and I certainly cannot compete with his eloquence and logic. I just want to inform the Committee that I fully agree with the substance of what he said, especially when he dealt with the subject of the working methods of the Working Group for next year, the duration of the Legal Subcommittee's session, the rule of consensus, the agenda and the problem of our chairmanship.

By no means do we want our position to sound critical of how this group has been run up to now. I think the Chairman has done an excellent job given the

circumstances, and I want to express publicly my appreciation for what he has done, with the collaboration of the Member States. Our position is meant to give a sense of the importance we attach to this Committee and our determination that it work in a better and more rational way in the future.

Mr. Marchán (Ecuador) (*interpretation from Spanish*): In view of the lateness of the hour, I would like simply to say that the Ecuadorian delegation was pleased to join in the consensus on the adoption of report, with the understanding that no change made in the methods of work should or can modify substantive issues.

Mr. Campos (Portugal): We would like to comment briefly on the matter of the duration of the session of the Legal Subcommittee. During the proceedings we stated explicitly that, in view of the agenda, it should be possible to consider all topics over a period of two weeks. We did not find a reflection of this in the final report. Maybe we were not sufficiently attentive in reading its many points, but, apparently, other delegations did not find it there either. We would like to state our support for this aspect of the position expressed by the representatives of Spain and Italy.

The Chairman: I wish to draw the attention of the representative of Portugal to paragraph 29 of document A/AC.105/L.208/Add.5, where precisely this item is addressed.

Mr. Louet (France) (*interpretation from French*): I would like to pay tribute to you, Mr. Chairman, for the mastery and extraordinary conscientiousness with which you have conducted our work.

I would also like to say briefly that I am in absolute agreement with the statement of the Ambassador of Spain in respect of working methods and the duration of sessions. Like him, I regret that many proposals aimed at rationalizing our work, which is essential in these times of budgetary economization, were not accepted. I do not think it is in the interest of the Committee to continue to have lax working methods.

Mr. Vaughn (Australia): I wanted briefly to express thanks to all members for their participation in the Working Group of the Whole, on working methods, for their forbearance and spirit of compromise and cooperation; to you personally, Sir, for your able chairmanship of the Working Group; and to our Rapporteur, Mr. Telles Ribeiro, for his untiring efforts to bring together the ideas expressed in the Working Group into proposals which achieved consensus.

Although there is still some way to go in the reform of working methods — and this will, of course, be taken up next year — we are very pleased with the outcome, which, while not incorporating all the ideas that we or other representatives put forward, is a step in the right direction. We believe that through improvement in the effectiveness and efficiency of the deliberations of this Committee and its Subcommittees we can maintain the integrity and relevance of the Committee on the Peaceful Uses of Outer Space in its future consideration of the very important topics before it.

Mr. Rey Córdoba (Colombia) (*interpretation from Spanish*): My delegation would also like to express its pleasure at the way work is progressing on the appropriate working methods of the Committee and the Subcommittees. It seems to me that we are moving in the right direction. I think that only through a serious, detailed study of these issues, conducted without haste or preconceptions, will it be possible to reach a rational solution to the problem.

On another subject, I would like to say that the leaders of the Committee and the Subcommittees do not in principle hold office indefinitely. If they continue to do so, it is because that is the unanimous wish of the Committee and its Subcommittees, which consider that the work has been carried out efficiently.

The Chairman: I now call on the Director-General of the United Nations Office in Vienna.

Mr. Giacomelli (Director-General, United Nations Office in Vienna): In view of the hour, I will be extremely brief, but I could not let this important event take place without coming to greet all the members of the Committee and expressing my congratulations on this successful and productive session. The Committee has even made progress in its deliberations on the possibility of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), and I understand that the issue will remain on the agenda, to start with, of the Scientific and Technical Subcommittee at its next session.

I very much hope that the atmosphere in the Vienna International Centre and the assistance provided by the Office for Outer Space Affairs and by Conference Services have facilitated the Committee's deliberations

and made them pleasant. A very good sign is that the Committee managed to conclude its work ahead of schedule, which is always a very positive indication.

I would like to assure members that the Committee and its subsidiary bodies will continue to have the full attention and support of the Office in Vienna, and also that the United Nations as such will continue to place very strong emphasis on them. It could not be otherwise. I think the future will show that this activity is becoming one of the most urgent and pressing priorities of our time.

I see a very positive sign in the efforts the Committee has made to improve its working methods. It has made some progress. The decision, for instance, to have unedited transcripts instead of a verbatim record will start to save resources, and it is a step in the right direction. From what I heard in the closing statements of some delegations, the Committee will quite appropriately review this step in due course, and this should place the Committee in the vanguard, I think, of a United Nations where everybody is striving to improve the methods of work. We have now heard other interventions related to this aspect, and I think this is another indication not only of the vitality of this Committee, but also of the very pressing awareness of the fact that this subject is indeed going to have more and more importance in the agenda of the United Nations.

Finally, I want to thank the members of the Committee for their participation. I also wish to congratulate the Chairman and, through him, all the members on the Committee's deliberations.

Mr. Chandrasekhar (India): On behalf of my delegation and of the other countries of the Asian region, we would like to convey our thanks to you, Mr. Chairman, to the Vice-Chairman, Ambassador Mazilu, to the Rapporteur, Mr. Edgard Telles Ribeiro, and to the Secretary, Mr. Jasentuliyana, and his excellent staff, all of whom have made this session of the Committee a complete success. We are also very happy to have the Director-General here; his presence indicates the importance the United Nations attaches to the Committee on the Peaceful Uses of Outer Space, which is the central body for promoting international cooperation in the peaceful uses of outer space and for dealing with all related aspects.

Our delegation wants particularly to thank you, Mr. Chairman, for the excellent way in which you guided our deliberations. We have made constant progress; even though this progress has to be on the basis of consensus, it is heartening that we are able to make progress at every session. Especially on issues such as a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) and the Committee's working methods, the way you handled the situation was very good, for which we thank you. We also thank Mr. Tremayne-Smith, who chaired the informal group on UNISPACE III.

Space is a very complex and sensitive issue that is very important especially to us in developing nations, who believe that space holds the key to improving our quality of life; we thank the Committee officers for the way in which they have protected our interests.

Mr. Melgar (Uruguay) (*interpretation from Spanish*): It gives me pleasure, Mr. Chairman, on behalf of the Group of Latin American and Caribbean States, to convey to you our sincere congratulations on having guided our debates with your usual efficiency and on the invaluable support and advice you have given the members of the Committee. I also congratulate the other Committee officers and the secretariat staff, in particular the conference servicing staff, including the interpreters and translators, who have been of great help in our work.

Mr. Böck (Austria): Let me join other delegations, on behalf of the "like-minded group", in thanking you, Mr. Chairman, for the efficient way in which you conducted our meetings. We also thank the Vice-Chairman, Ambassador Mazilu, and the Rapporteur, Mr. Telles Ribeiro, as well as the entire staff of the Office for Outer Space Affairs, for the way in which they furnished us with documents and information, and helped us follow a smooth path. In that regard, I wish also to thank the conference servicing staff, in particular the interpreters, for their work.

The Chairman: I wish to echo the appreciation that has been expressed by representatives of regional groups and by individual delegations; I appreciated very much the cooperation of the Vice-Chairman, Ambassador Mazilu, and, in particular, the Rapporteur, Mr. Edgard Telles Ribeiro, who did a tremendous job of leading crucial and very delicate consultations. I want also to thank very much the Head of the Office for Outer Space Affairs and all his colleagues; they have given genuine proof of their dedication and of their enormous competence on the very complex issues we deal with. Members should never forget the loyal service offered by the staff.

I would like to mention also how much I appreciated the work of the interpreters and the other conference staff — the précis writers and the conference officers. They have shown how important their support is to our work.

It is the usual practice for the Chairman to offer some sort of political message at the end of the session. I am not going to do this. I would like to say only that this year the Committee started the very important process of considering its own working methods and possibly the form of the Committee. At the same time, I had the feeling that — even if it was not possible, in the view of some delegations, to achieve all they would have liked to achieve — the spirit of democracy prevailed, which meant that delegations were sensitive enough to take into account the interests of other delegations. I very much appreciated the spirit of cooperation of those who would possibly have liked to go much further as far as reform was concerned.

I remind members not to overlook the fact that, apart from procedure and working methods, we are also dealing with very complex substantive issues. I would like to invite all delegations to bring to next year's sessions of the Subcommittees and the main body fresh, new ideas so that we can make progress on the matters before us and possibly also enrich our work with new matters.

Let me finally say to all participants how much I appreciated being together with you again. Thank you for your cooperation. I wish those of you not posted to Vienna a good trip back to your countries.

The meeting rose at 1.15 p.m.